



## SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE (A)

China Amiram, Bhimavaram, Andhra Pradesh- 534204

### Mapping of courses to Employability/ Entrepreneurship/ Skill development

S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1	Computer Programming Using C & Numerical Methods	B16 ENG 1106	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2	Computer Programming Using C & Numerical Methods Lab	B16 ENG 1112	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
3	Engineering Graphics	B16 ENG 1204	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
4	Professional Ethics & Moral values	B16 ENG 1206	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
5	Building Materials and Building Construction	B16 CE 1208	This course arms the Civil Engineer with knowledge of building materials and their specific applications in various building and infrastructure projects. It helps for employability.
6	Physics Lab	B16 ENG 1209	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
7	Workshop	B16 ENG 1211	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
8	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking's skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
9	Mathematics –IV	B16 ENG 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
10	Engineering Mechanics	B16 CE 2101	This is the defining course of Civil Engineering which lays down the framework for studying the macroscopic behaviour of bodies under different types and magnitudes of forces. The other design courses specific to material type building on this course. This course is the essential ground for all Civil Engineering and employability.
11	Mechanics of Solids	B16 CE 2102	The student gauges the limits of loading various shapes and materials used in Civil Engineering Structures. Knowledge of these concepts is essential to later design courses. It helps for employability skills.
12	Fluid Mechanics-I	B16 CE 2103	This course covers the mathematical concepts and frameworks used in designing hydrostatic and hydrodynamic systems used in Civil Engineering such as water retaining structures and conveying structures such as channels and pipes. It helps for employability.
13	Surveying	B16 CE 2104	This course is basic numeracy for a Civil Engineer who is expected to map the reality (surveying) and transform the reality (Design and Build) and again repeat this cycle time and again as societal needs keep evolving. It helps for employability.
14	Strength of Materials Laboratory	B16 CE 2105	This laboratory develops skills necessary for understanding failure of materials and quality of construction materials. These skills are essential for a structural design engineer. It develops skills in students.
15	Surveying Field Work	B16 CE 2106	This laboratory helps develop the practical skill of measuring land and development features such as roads, canals, buildings etc., and mapping the same to scale for use in planning and design of infrastructure. It develops skills in students.
16	English Proficiency	B16 ENG 2104	This course building on the first course in General English and focuses on English language use in professional context with an emphasis on production (speaking and writing). It helps for employability skills.
17	Auto CAD	B16 CE 2107	Computer Aided Drafting is an essential skill of Civil Engineer and this course offers ample opportunity to hone this skill in the latest industry preferred software such as Autodesk AutoCAD. It develops drawing skills required for a civil engineer.
18	Analysis of Structures	B16 CE 2201	This course builds on Engineering Mechanics and Mechanics of Solids to take the student closer to real life building elements of all sizes, shapes and structural function. Various Theorems on the stresses, strains, deflections under complex loads help design the structural elements. It helps for employability skills.
19	Reinforced Concrete Structures	B16 CE 2202	Designing as per Concrete Code is an essential skill for a structural design engineer. The course covers the design of RCC structures that withstand the loads from various sources. It helps for employability skills.
20	Fluid Mechanics-II	B16 CE 2203	The course arms the Hydraulic Engineer with knowledge of designing pipes and channels experiencing laminar and turbulent flows. The course also deals with knowledge of lift, drag and propulsion which are essential for studying effects on wind on structures. It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
21	Building Planning & Design	B16 CE 2204	The course covers the conventions around building planning, drafting and communication for approvals from regulatory authorities such as Town and Country Planning offices in local government bodies. The course also covers the basics of climatology which forms the basis of biophilic design and green buildings. It helps for employability skills.
22	Advanced Surveying Methodologies	B16 CE 2205	The course builds on the principles learnt in basic surveying and equips with the knowledge of current surveying equipment in the Industry. A graduate engineer will be using some or all of the instruments and their survey methods in the initial years of his/her career in Civil Engineering. It helps for employability skills.
23	Engineering Geology	B16 CE 2206	Construction Engineers (building materials), Geotechnical Engineers (soil identification), Water Resource Engineers (Ground Water), Transportation Engineers (route alignments) will use Geological knowledge in their everyday jobs. Remote Sensing tools and Geophysical Methods are used in site investigations for prospecting, minerals, rocks, ground water, geological formations (faults, fractures etc.). It helps for employability skills.
24	Total station and Geomatics lab	B16 CE 2207	The student develops skill in surveying site details (using Total Station) and mapping large areas for planning exercises (remote sensing). The tools and methods are also useful in staking out works in the field from design drawings. It develops skills in students.
25	Engineering Geology Lab	B16 CE 2208	The student develops the skill of material identification from Rocks and Minerals. The student is also able to visualise various geological features such as fold, faults using concepts of strike and dip. It develops skills in students.
26	Fluid Mechanics Lab-I	B16 CE 2209	Student becomes adept in measuring flow parameters in pipes and channels under various conditions. The student will also become acquainted with the performance of different shapes of weirs and notches that are employed as flow measuring devices in the field. It develops skills in students.
27	Industry Oriented Technology Lab	B16 CE 2210	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc. It develops skills in students.
28	Structural Analysis	B16 CE 3101	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures. It also helps for employability.
29	Reinforced Concrete Structures - II	B16 CE 3102	The student practises design and drafting of structures (other than buildings) like Retaining Walls, Tanks, Bridges, Piles, Bunkers etc., as per the Indian Concrete Design Code. It also helps for employability.
30	Steel Structures	B16 CE 3103	The student gets adept at design of steel structures based on Limit State Design approach as per the Indian Steel Design Code. This is an essential skill in structural design work. It also helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
31	Geotechnical Engineering - I	B16 CE 3104	Knowledge of behaviour of soil under building loads and environmental variations such as ground water, earth quakes etc., is essential knowledge for design of foundations. It also helps for employability.
32	Environmental Engineering - I	B16 CE 3105	The course arms a public health engineer with knowledge of water sourcing, treatment, storage and supply for public works. The course prepares one for treatment of water to Indian potable water standards. It also helps for employability.
33	Concrete Technology-#ELE-I	B16 CE 3106	This is an essential course for a Civil Engineer to work in Building Technology, specific to concrete and its application in contemporary industry. It also helps for employability.
34	GIS & Remote Sensing-#ELE-I	B16 CE 3107	This course is essential for Civil Engineers involved in large scale project planning and site investigation whether for foundation design, water resource planning, waste disposal, route planning or overall urban heat island studies and impact on macro climate. The tools are also used in large scale projects like dams, reservoirs, war theatre planning etc. It also helps for employability.
35	Pre Stressed Concrete-#ELE-I	B16 CE 3108	The course provides specialised knowledge in concrete structures design using pre-stressed technology. This type of design is increasingly used in large scale infrastructure projects for saving costs, time and increasing reliability and performance of the structures. It also helps for employability.
36	Building Services and Maintenance-#ELE-I	B16 CE 3109	The course expands the knowledge of the Civil Engineer to cover the operations and maintenance of a functional building. The course broadens the horizon of Civil Engineer into Mechanical, Electrical, Plumbing, Fire Safety, Communications, Security, Parking aspects of modern buildings. It also helps for employability.
37	Watershed Management-#ELE-I	B16 CE 3110	The course offers a specialised planning skill essential in government departments for managing water requirements in the administrative jurisdictions. It also helps for employability.
38	Environmental Engineering Lab	B16 CE 3111	The lab gives practise to a public health engineer in conducting routine water quality tests expected in a public water treatment plant. It develops skills in students.
39	Geotechnical Engineering Lab I	B16 CE 3112	The student gets practise in field investigations and laboratory equipment dealing with soil testing for its properties and behaviour. It develops skills in students.
40	Verbal & Quantative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
41	Geo Environmental Engineering #M-I	B16 CE 3113A	The course introduces interdisciplinary work pertaining to geotechnical and environmental engineering in the context of disposing waste in an engineered landfill. The course is essential for Civil Engineers tasked with managing solid and liquid wastes. It helps for employability skills.



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42	Higher Surveying #M-I	B16 CE 3113B	The student gets familiar with the global systems of surveying such as Mapping, GPS, DTM, Photogrammetry, LiDAR and handling the plethora of data available online. It helps for employability.
43	Chemistry Lab	B16 ENG 1110	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
44	Integrated Waste Management for a Smart City	B16 CE 3113C	The course arms the environmental engineer with knowledge and strategies for handling wastes in a smart city context. It helps for employability.
45	Introduction to Accounting and Finance for Civil Engineers	B16 CE 3113D	The course is essential for Engineers who want to become contractors or entrepreneurs in preparing bid documents and business plans. It helps for entrepreneurship.
46	Fire protection, Services & Maintenance Management for Building	B16 CE 3114A	The course extends the professional horizon of a Civil Engineer to work with other Building Services Professionals in handling the operations and maintenance of buildings. It helps for employability.
47	Modern Construction Materials	B16 CE 3114B	The course is a foundation for those Civil Engineers who want to get into development of new materials for use in novel contexts such as 3D printing of materials etc. It helps for employability.
48	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally, the Fourier Transforms help in studying vibration and its effects on aero elastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.
49	Physics	B16 ENG 1202	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
50	Principles of Construction Management	B16 CE 3114C	The knowledge gained in this course is useful to both work as a site engineer or to get started as a contractor / entrepreneur in Civil Engineering projects. It helps for entrepreneurship.
51	Reinforced Concrete Road Bridges	B16 CE 3114D	The course builds the specific skill of designing road bridges for vehicular traffic. It helps for employability.
52	Advanced Steel Structures	B16 CE 3201	The course builds on the basic course in steel structure design and provides experience in design of diverse steel structures as per the Indian steel design code. It helps for employability.
53	Geotechnical Engineering- II	B16 CE 3202	The second course on Geotechnical Engineering gives further design knowledge in different types of foundations and frameworks for analysis of stability of slopes. The course includes calculation of earth pressure based on various theories. It helps for employability.



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54	Fluid Mechanics - III	B16 CE 3203	This course on Hydraulic Machinery equips the Water resource engineer with knowledge and methods for analysing the performance of pumps, turbines, pressure vessels. The course also arms one with Dimensional analysis approach that forms the basis for solving fluid mechanics problems. It helps for employability.
55	Estimation and Quantity Surveying	B16 CE 3204	The course is essential for Engineers who want to become contractors or entrepreneurs in preparing bill of quantities and tender documents. The skill is also essential for becoming a certified valuer. It helps for entrepreneurship.
56	Environmental Engineering - II	B16 CE 3205	This course is essential for public health engineers handling sewerage and sewage treatment works. The course equips one with theoretical knowledge of the treatment units and their applications in specific stages of treatment plant. It helps for employability.
57	Ground Improvement Techniques #ELE-II	B16 CE 3206	The course is a specialisation for a Geotechnical Engineer to handle complex soil conditions that do not permit construction of buildings or hamper their durability. The course covers proven strategies for soil modification to improve its ability to support structures and their loads. It helps for employability.
58	Environmental Impact Assessment #ELE-II	B16 CE 3207	The EIA is a specialised task of Environmental Engineer. The course arms one with the regulatory framework, its scope and the prescribed process for conducting an EIA. The course covers the process of applying for and getting environmental clearance for various projects. It helps for employability.
59	Marine Structures #ELE-II	B16 CE 3208	The course is a specialisation for structural engineers called ocean engineering and equips the structural engineer with ideas and approaches to design various ocean related off shore structures. It helps for employability.
60	Urban Hydrology #ELE-II	B16 CE 3209	The course is a specialised design skill for water resources engineer tasked with handling storm water runoff. It is crucial to enhance ground water levels and prevent urban flooding which is increasing in highly urbanised areas. It helps for employability.
61	Finite Elements Methods of Analysis #ELE-II	B16 CE 3210	The course equips the structural engineer with finite element approaches in analysing complex geometries of structures under complex loading conditions. It helps for employability.
62	Geotechnical Engineering Lab - II	B16 CE 3211	The student carries out the standard tests on soils which are essential for foundation design. These skills are essential for a Quality Control / Highway / Geotechnical engineer. It develops skills.
63	Concrete Lab	B16 CE 3212	The students develops the skill of mixing building materials to prepare concrete and mortars of various grades to achieve desired strength characteristics. The skills are indispensable for Quality control engineers that work at project sites and Ready Mix Concrete Plants. It develops skills.



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64	Fluid Mechanics Lab - II	B16 CE 3213	The student develops the skill of testing pump characteristics, drawing performance curves for vanes and turbines. The student also verifies various equations used for describing flow conditions. It develops skills in students.
65	Verbal & Quantative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
66	Mini Project	B16 CE 3214	The student gets to demonstrate his grasp of applied science and skills in handling Civil Engineering Instruments in solving a practical problem and formulation of a societal problem in engineering terms. It develops skills.
67	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardising Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
68	Mathematics-I *	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
69	Mathematics-II *	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
70	Chemistry	B16 ENG 1104	It is a course that helps understand the material behaviour and quality of building materials, water, polymers under service and environmental stress conditions. These aspects are essential knowledge for structural, water resources and environmental professionals. It helps for employability skills.
71	Basic Coding	B16 ENG 3203	This introductory course lays the foundation for programming and ability to use modern tools in ICT. Programming knowledge also inculcates system thinking and ability to reduce the problem to its fundamentals. It is a key skill required in modern work place of all engineering specialisations. It develops skills in students.
72	Energy Efficiency, Acoustics And Day lighting In Building	B16 CE 3215A	This advanced course broadens the understanding of Civil Engineer into allied building trades such as energy efficiency, acoustics, daylighting which are crucial in designing green buildings. It helps for employability.
73	Electronic Waste Management - Issues And Challenges	B16 CE 3215B	This course equips a sanitation engineer with specific knowledge concerning electronic waste. E-waste needs to be handled separately and a Civil Engineer needs broader understanding of materials used in Electronics and Electrical equipment. It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
74	Principles And Applications Of Building Science # M-III	B16 CE 3215C	This course introduces a Civil Engineer to Biophilic or Bio Climatic design which informs the development of green and sustainable building practises. It also helps for employability.
75	Water Resource Engineering-I	B16 CE 4101	This course prepares a Civil Engineer for planning and design of irrigation systems to cater to needs of agriculture and other human activities. The course covers both surface water and ground water resource estimation and planning. It helps for employability.
76	Transportation Engineering-I	B16 CE 4102	The course prepares the Civil Engineer for designing highway and airport systems with specifics about pavement material selection and design. It helps for employability.
77	Project planning and Management	B16 CE 4103	The course arms one with the knowledge of manage projects in infrastructure development. The knowledge is also useful to become an contractor and manage one's projects.
78	Computer Applications in Civil Engineering lab	B16 CE 4104	The Engineer gains experience in solving design and analysis problems using programming and specific tools such as spreadsheets and software packages. These skills are essential to become a designer or consultant.
79	Transportation Engineering Lab	B16 CE 4105	The lab helps develop skills related to testing pavement materials used in transportation projects. The skills are essential for a quality control engineer.
80	Project Phase-I	B16 CE 4106	The project gives opportunity for the student to apply all the knowledge and skills acquired during the study to specific problem solution or formulation.
81	Water Resource Engineering-II	B16 CE 4201	This course equips with Water Resource Engineer with specific knowledge related to design of Hydraulic Structures.
82	Transportation Engineering-II	B16 CE 4202	The student gains knowledge on design of specific transportation systems such as Railways, Docks and Harbours and Tunnel Design. These are specialised design areas for transportation engineers.
83	Irrigation Structures Design & Drawing	B16 CE 4203	The student develops specific skills related to drawing irrigation structures with design details. These are useful for Design and Drawing groups in PWD or water resource departments in governments.
84	Project Phase-II	B16 CE 4204	The advanced stage of project helps one refine skills in communication, field study, problem formulation and solution through design.
85	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardising Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
86	Mathematics-I *	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.



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87	Mathematics-II *	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
88	Chemistry	B16 ENG 1104	It is a course that helps understand the material behaviour and quality of building materials, water, polymers under service and environmental stress conditions. These aspects are essential knowledge for structural, water resources and environmental professionals. It helps for employability skills.
89	Computer Programming Using C & Numerical Methods	B16 ENG 1106	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
90	Chemistry Lab	B16 ENG 1110	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
91	Computer Programming Using C & Numerical Methods Lab	B16 ENG 1112	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
92	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally, the Fourier Transforms help in studying vibration and its effects on aero elastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.
93	Physics	B16 ENG 1202	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
94	Engineering Graphics	B16 ENG 1204	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
95	Professional Ethics & Moral values	B16 ENG 1206	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.



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96	Probability, Statistics & Queueing Theory	B16 CS 1208	This course enables the students to acquire essential skills needed for enhancing their skills in Fundamental knowledge of the probability concepts and Acquire skills in analysing queueing mode. This knowledge plays a key role in the student's getting employability in relevant companies.
97	Physics Lab	B16 ENG 1209	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
98	Workshop	B16 ENG 1211	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
99	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
100	Data Structures	B16 CS 2101	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
101	Elements of Electronics Engineering	B16 EC 2103	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
102	Discrete Mathematical Structures	B16 ENG 2102	The course DMS enables students to learn and apply mathematical concepts like Tatology, Boolean algebra, set theory and Graph Theory. The knowledge of these concepts contributes to skill development in the engineering applications like Digital circuits and Cryptography.
103	Object Oriented Programming	B16 CS 2102	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
104	Digital Logic Design	B16 CS 2103	This course enables students to acquire knowledge and understanding of the design of digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits which helps them become employable.
105	Data Structures Lab.	B16 CS 2105	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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106	Object Oriented Programming Lab.	B16 CS 2106	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
107	English Proficiency	B16 ENG 2104	These course buildings on the first course in General English and focuses on English language use in professional context with an emphasis on production (speaking and writing). It helps for employability skills.
108	Industry Oriented Training.	B16 ENG 2105	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
109	Operating Systems	B16 CS 2201	This course helps students learn the concepts related to CPU scheduling, memory management etc. This understanding plays a key role in students getting employment in relevant industries
110	Computer Organization	B16 CS 2202	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU,Memory and I/O organizations, and these will help the students to improve their skills
111	Microprocessors	B16 CS 2203	This makes the students improve their skills as this course deals with introducing 8085 and 8086 microprocessor architecture and microcomputer systems, including memory and input/output interfacing. Topics include assembly language programming, interrupts, and other related topics are useful to understand the system
112	Data Communications	B16 CS 2204	This course enables students to learn the concepts related to the process of using computing and communication technologies to transfer data from one place to another, or between participating parties . This understanding plays a key role in student's employment in relevant industries
113	Advanced Data Structures	B16 CS 2205	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sorting's, graphs these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
114	Computer Graphics	B16 CS 2206	This course makes students apply the concepts related to web design, animations etc . This understanding plays a key role in student's getting employment in relevant industries
115	Operating Systems & Unix programming Lab	B16 CS 2207	This course enables students learn the concepts related to the areas of UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. This understanding plays a key role in student's employment in relevant industries.
116	Digital Electronics & Microprocessors Lab	B16 CS 2208	This course aims at enabling the students to learn various aspects of graphical design , photography etc . This exposure gained from the course contributes to development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
117	Competitive Programming	B16 CS 2209	This course makes students to improve their logical thinking to solve different problems in Python and Language R environment. This logical thinking plays a key role in students' getting employment in product based companies.
118	Industry Oriented Training	B16 ENG 2203	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
119	Computer Networks	B16 CS 3101	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
120	Web Technologies	B16 CS 3102	This course makes students apply the concepts of HTML, DHTML, and JSP for designing interactive web pages and JDBC for establishing connections with databases like MySQL. This knowledge plays a key role in students' getting employment in web designing.
121	Formal Languages & Automata Theory	B16 CS 3103	This course aims at helping students to learn various applications of formal languages and role of formal languages in the development of compiler for particular language. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
122	Database Management Systems	B16 CS 3104	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
123	Embedded Systems #ELE-I	B16 CS 3105	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
124	Bio-Informatics #ELE-I	B16 CS 3106	This course enables the students to learn and understand the importance of computing techniques in bioinformatics. This develops skills for analysis and prediction of genomic data. this course enables students to acquire essential skills needed for enhancing their skills in the field of bio informatics.
125	Image Processing #ELE-I	B16 CS 3107	This course helps the students learn the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
126	Application Development Using Java #ELE-I	B16 CS 3108	This course enables students to apply the concepts related Swings, Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
127	Database Management Systems Lab.	B16 CS 3110	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
128	Application Development Lab.	B16 CS 3111	This course enables students to apply the concepts related Swings,Servlets, and JSP. This understandig and development of applications will enhance students skills to design software, and this ability of design plays a key role in students getting employment in relevant industries.
129	Verbal & Quantitative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
130	Advanced Coding#M-I	B16 ENG 3104	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
131	Digital Image Processing #M-I	B16 CS 3112A	This course helps the students learns the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
132	E-Business #M-I	B16 CS 3112B	This course makes students to be familiar with E-Business technologies like E-procurement, E-marketing, E-Selling, E-Supply Chain Management. This course also deals with behavior modeling, auction and recommender systems. This understanding plays a key role in students' getting employment in E-commerce.
133	Introduction to parallel Programming in Open MP #M-I	B16 CS 3112C	This course makes students develop algorithms for many of the complex problems to solve them in parallel, which makes the excution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in student's getting employment in relevant industries.
134	Social Networks #M-II	B16 CS 3113A	This subject focuses on the decision-making process and improves limited resources allocation capability of an individual.The learning outcomes of this course contribute to employability prospects of students.
135	Introduction to Internet of Things #M-II	B16 CS 3113B	This course makes students learn the concepts related to Internet of Things in real time, and for automatizing of machines. This understanding plays a key role in student's getting employment in relevant industries, enhance their entrepreneur skills.
136	Block chain Architecture Design and Use Cases #M-II	B16 CS 3113C	This course is a joint venture from academia and industry, where the target is to cover both the conceptual as well as application aspects of Blockchain.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
137	Introduction to R Software #M-II	B16 CS 3113D	This course makes students to learn and understand importance of data, its management, indexing and visualization in Language R environment. This logical thinking plays a key role in students' getting employment in data science.
138	Data Warehousing & Data Mining	B16 CS 3201	This course makes students learn the data warehousing concepts related to schemas, attributes for storing and handling different data formats. Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
139	Object Oriented Software Engineering	B16 CS 3202	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program helps the students in acquiring employability and entrepreneurship skills.
140	Design and Analysis of Algorithms	B16 CS 3203	This course aims at helping the students understand the different paradigms for problem solving and gives the knowledge for analysing the algorithms for solving different types of problems in Computer Science. This exposure gained from the course contributes to the development of skills needed for problem solving.
141	Compiler Design	B16 CS 3204	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
142	Artificial Intelligence	B16 CS 3205	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks.
143	Cloud Computing #ELE-II	B16CS3206	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence. This understanding plays a key role in student's getting employment in relevant industries
144	Mobile Computing #ELE-II	B16CS3207	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
145	Distributed Systems #ELE-II	B16CS3208	This course enables the students to understand distributed system architectures, RPC, process, memory, file system management in distributed environment. This exposure gained from the course contributes to the development of skills needed for distributed systems.
146	Advanced Computer Architecture #ELE-II	B16CS3209	This course enables students to acquire essentials skills in study of instruction set design, parallel processing, bit instruction and distributed computing which makes the students employable.
147	Software Engineering Mini Project Lab	B16 CS 3213	This course includes fundamentals of software development tools along with software analysis, design and development. After completing this course Students can easily adjust to the working environment once they are employed. It is also useful to acquire Software Engineer jobs.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
148	Network Programming Lab	B16 CS 3214	This course makes students learn the concepts related to working of computer networks in real time, and simulation of various topologies. This understanding plays a key role in student's getting employment in relevant industries.
149	Verbal & Quantitative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
150	Competitive Coding #M-III	B16 ENG 3205	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skill development prospects of students.
151	AngularJS #M-III	B16CS3215A	This course enables students to apply the concepts related to HTML, java script, XML, AJAX and PHP. This understanding and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.
152	ASP.NET #M-III	B16CS3215B	This course helps the students to build web based applications like ASP.NET and visual studio. The knowledge of which brings them good number of employability opportunities.
153	C#.NET & VB.NET #M-III	B16CS3215C	This course helps the students to build desktop applications using Windows forms in VB.NET and the knowledge of which helps them increase their employability opportunities in relevant industries.
154	Microwave Engineering	B16 EC 3201	This course helps students understand the concepts related to operational characteristics and conceptual understanding of active and passive components at microwave frequencies. This understanding plays a key role in students' getting employment in relevant industries.
155	Microprocessors and its Applications	B16 EC 3202	This course enables students learn the concepts related to architecture of the 8085 and 8086 microprocessors. This understanding plays a key role in students' getting employment in relevant industries.
156	Digital Communication	B16 EC 3203	This course helps students understand the concepts related to basic principles of digital communication system. This understanding plays a key role in students' getting employment in relevant industries.
157	Machine Learning	B16CS 4101	This course makes students to conceptualize the concepts related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in students getting employment in relevant industries.
158	Big Data Analytics	B16CS 4102	This course deals with concepts like hadoop architecture, pig and hive which will help them gain better employability opportunities and build a better career
159	Principles of Economics and Management	B16ENG 4101	Student get exposure to the important micro economic concepts and Management tools and techniques which are useful for survival of organization in a competitive environment.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
160	Knowledge Engineering Lab	B16CS 4104	This course makes students learn and apply Association Mining, Basic classification and clustering algorithms to analyze and visualize data in WEKA tool. This develops skills for data analysis and prediction.
161	Big Data Analytics Lab	B16CS 4105	This course makes students to learn and apply MapReduce programming for Big Data in Hadoop Environment. This understanding plays a key role in students' getting employment in Big Data environment.
162	Project Phase-I	B16 CS 4106	This course helps the students to identify the current problem and write report and present it effectively. This knowledge improves their skills and this understanding plays a key role in student's employment in relevant industries.
163	Internet of Things	B16CS 4201	This course makes students learn the concepts related to Internet of Things in real time, and for automatizing of machines. This understanding plays a key role in student's getting employment in relevant industries, enhance their entrepreneur skills.
164	Cryptography and Network Security	B16CS 4202	This course enables students to learn the concepts related to the areas of cryptography and cryptanalysis and develops a basic understanding of the algorithms used to protect users online. This understanding plays a key role in student's employment in relevant industries.
165	Operations Research	B16CS 4203	This course enables students learn the concepts related to defining the current problem, formulating a mathematical model of the problem, calculating an optimal solution of the model, and finally interpreting and implementing the found solution. This understanding plays a key role in student's employment in relevant industries
166	Internet of Things Lab	B16CS 4204	This course enables students apply the concepts related to internet of things and to do simulations on various applications. This understanding plays a key role in students getting employment in relevant industries, enhance their entrepreneur skills.
167	Project Phase-II	B16CS 4205	This course helps the students to identify the current problem and write report and present it effectively. This knowledge improves their skills and this understanding plays a key role in student's employment in relevant industries.
168	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardasing Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
169	Mathematics-I*	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
170	Mathematics-II*	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
171	Physics	B16 ENG 1105	The contents of physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
172	Engineering Graphics	B16 ENG 1107	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
173	Professional Ethics & Moral Values	B16 ENG 1109	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
174	Physics Lab	B16 ENG 1111	The experiments in Physics lab course are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
175	Workshop	B16 ENG 1113	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
176	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally the Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.
177	Chemistry	B16 ENG 1203	The study of chemistry involves a vast number of concepts and skills. The philosophy is to present the basic ideas and also to apply them to aspects of engineering where chemistry is important. The curriculum is applied with a judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind. Chemistry curriculum is directly related to the outcome of engineering program which depends on the chemistry input resources like water quality, building materials, corrosion control, battery technology, polymeric materials. This course enables students to analyze different materials used across technologies. The learning outcome of this course contributes to the skill development of students.
178	Computer Programming Using C & Numerical Methods	B16 ENG 1205	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
179	Electronic Devices and Circuits	B16 EC 1208	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
180	Chemistry Lab	B16 ENG 1210	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
181	Computer Programming Using C & Numerical Methods Lab	B16 ENG 1212	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
182	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
183	Mathematics - IV	B16 ENG 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
184	Circuit Analysis & Synthesis	B16 EE 2104	This course aims at helping students understand various aspects of theorems and techniques in electric circuit analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
185	Electrical Technology	B16 EE 2105	This course aims at helping students understand various aspects of theorems and techniques in electrical machines. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
186	Analog Electronic Circuits	B16 EC 2101	This course makes students learn the concepts related to amplifiers, and analysis. This understanding plays a key role in students' getting employment in relevant industries.
187	Elementary Data Structures	B16 CS 2104	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
188	Probability Theory & Random Processes	B16 EC 2102	This course makes students learn the concepts related to probability, and statistical. This understanding plays a key role in students' getting employment in relevant industries.
189	Network And Machines Lab	B16 EE 2107	This course aims at helping students understand various aspects of practicals on electrical machines. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
190	Electronic Devices & Circuits Lab	B16 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
191	English Proficiency	B16 ENG 2104	This course builds on the first course in General English and focuses on English language use in professional context with an emphasis on production (speaking and writing). It helps for employability skills.
192	Industry Oriented Training	B16 ENG 2106	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
193	Switching Theory and Logic Design	B16 EC 2201	This course aims at helping students to understand various aspects of number systems and minimization of Boolean functions. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
194	Electromagnetic Field theory & Transmission Lines	B16 EC 2202	This course aims at enabling students to learn various aspects of static electric field, steady magnetic field and time varying electromagnetic fields in real time applications. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
195	Pulse and Digital Circuits	B16 EC 2203	This course aims at helping the students to learn various aspects of Wave Shaping and Multivibrators. This understanding contributes to the development of skills needed for more advanced applications.
196	Analog Communications	B16 EC 2204	This course aims at helping students to understand various fundamental concepts of communication system. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
197	Signals & Systems	B16 EC 2205	This course aims at enabling students to learn various aspects of fundamental techniques associated with signals and systems. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
198	Analog Communications Lab	B16 EC 2207	The experiments carried out in this lab consolidate student's understanding of the steps involved in the various Analog communication modules. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
199	Analog Electronic Circuits Lab with Simulation	B16 EC 2208	This course aims at helping students learn the concepts related to analog circuits, their analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
200	Industry oriented Technology Lab	B16 EC 2209	This course aims at helping students learn the concepts related to analog circuits, their analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
201	Industry Oriented Training	B16 ENG 2204	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
202	Linear ICs and Applications	B16 EC 3101	This course aims at enabling students to understand various aspects of characteristics of operational amplifier for linear and non linear applications. This understanding contributes to the development of skills needed for more advanced applications.
203	Principles of Economics and Management	B16 ENG3101	Student get exposure to the important micro economic concepts and Management tools and techniques which are useful for survival of organization in a competitive environment.
204	Computer Architecture and Organization	B16 EC 3102	This course aims at enabling students to learn various fundamental blocks of a Digital Computer. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
205	Antennas and Propagation	B16 EC 3103	This course aims at helping students understand various aspects of radiation mechanism of antennas and its basic parameters like impedance, gain, directivity, bandwidth, effective length, beam width and radiation pattern etc. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
206	Electronic Measurements and Instrumentation	B16 EC 3104	This course aims at helping students learn the requirements to understand and analyze different signal generators and analyzers. This understanding contributes to the development of skills needed for more advanced applications.
207	Linear Integrated Circuits & Pulse Circuits Lab with Simulation	B16 EC 3106	The experiments carried out in this lab consolidate students' understanding of the steps involved in design, assembly and evaluation of Linear integrated circuits & Pulse Circuits. The knowledge gained in this lab is essential to students in getting employment in relevant industries.
208	Digital Integrated Circuits & Hardware Descriptive Language	B16 EC 3107	This course enables students to apply the concepts related to design, assembly and evaluation of digital integrated circuits and HDL lab. This understanding plays a key role in students' getting employment in relevant industries.
209	Verbal & Quantative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
210	Basic Coding #M-I	B16 ENG 3103	This introductory course lays the foundation for programming and ability to use modern tools in ICT. Programming knowledge also inculcates system thinking and ability to reduce the problem to its fundamentals. It is a key skill required in modern work place of all engineering specialisations. It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
211	Microwave Theory and Techniques #M-I	B16 EC 3109A	This course makes students learn the concepts related to design and development of microwave circuits and systems. This understanding plays a key role in students' getting employment in microwave based industries.
212	Analysis and Design Principles of Microwave Antennas #M-I	B16 EC 3109B	This course helps students understand the concepts related to broad spectrum of the antenna design and analysis. This understanding plays a key role in students' getting employment in relevant industries.
213	Principles of Digital Communications #M-I	B16 EC 3109C	This course makes students learn the concepts related to principles, techniques, trade-offs, and fundamental limits in modern digital communication systems. This understanding plays a key role in students' getting employment in relevant industries.
214	Introduction to Wireless and Cellular Communications #M-II	B16 EC 3110A	This course enables students to understand the concepts related to Overview of Cellular Systems and evolution . This understanding plays a key role in students' getting employment in relevant industries.
215	Fabrication Techniques for MEMS-based Sensors: Clinical Perspective #M-II	B16 EC 3110B	This course helps students to understand the concepts related to electronics and biomedical areas, fabrication of microfluidic platforms, micro-cantilevers, flexible force sensors, inter-digitated electrodes. This understanding plays a key role in students' getting employment in relevant industries.
216	Introduction to information theory, Coding and cryptography #M-II	B16 EC 3110C	This course enables students to understand the concepts related to basics of information theory and source coding . This understanding plays a key role in students' getting employment in relevant industries.
217	Digital Image Processing #M-II	B16 EC 3110D	This course makes students learn the concepts related to various image processing techniques, algorithms and their applications. This understanding plays a key role in students' getting employment in relevant industries.
218	Microwave Engineering	B16 EC 3201	This course helps students understand the concepts related to operational characteristics and conceptual understanding of active and passive components at microwave frequencies. This understanding plays a key role in students' getting employment in relevant industries.
219	Microprocessors and its Applications	B16 EC 3202	This course enables students learn the concepts related to architecture of the 8085 and 8086 microprocessors. This understanding plays a key role in students' getting employment in relevant industries.
220	Digital Communication	B16 EC 3203	This course helps students understand the concepts related to basic principles of digital communication system. This understanding plays a key role in students' getting employment in relevant industries.
221	Radar & Navigation # ELE-I	B16 EC 3204	This course enables students to understand the concepts related to basic working principles of various Radars. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
222	Information Theory And Coding # ELE-I	B16 EC 3205	This course helps students learn the concepts related to the basic concepts of information theory & applications of coding for information compression & channel protection. This understanding plays a key role in students' getting employment in relevant industries.
223	Object oriented programming # ELE-I	B16 CS 3210	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries
224	Web technologies # ELE-I	B16 CS 3211	This course enables students apply the concepts related to HTML, java script, XML, AJAX and PHP. This understanding and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.
225	Software Engineering # ELE-I	B16 CS 3212	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneur ship skills as almost every software includes database and software analysis & design . It is also useful to acquire Software Engineer jobs.
226	Digital Signal Processing	B16 EC 3206	This course helps students understand the concepts related to analysis and design tools required for signal processing systems & implementations. This understanding plays a key role in students' getting employment in relevant industries.
227	Embedded Systems & Microcontrollers #ELE-II	B16 EC 3207	This course makes students learn the concepts related to RTOS and its Inter Task communication Methods.This understanding plays a key role in students' getting employment in relevant industries.
228	Micro Electronics #ELE-II	B16 EC 3208	This course enables students understand the concepts related to analyze Digital CMOS circuits and other digital logic families. This understanding plays a key role in students' getting employment in semiconductor based industries.
229	Telecommunication Switching Systems #ELE-II	B16 EC 3209	This course helps students learn the concepts related to different data rate and applications of ISDN. This understanding plays a key role in students' getting employment in industries relevant to communications.
230	Digital Signal Processors And Architectures #ELE-II	B16 EC 3210	This course makes students learn the concepts related to Implement application programs on a DSP processor. This understanding plays a key role in students' getting employment in relevant industries.
231	DSP Laboratory	B16 EC 3211	This course aims at helping students learn various aspects of different filters in MATLAB coding and the image processing techniques. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
232	Microprocessors and Microcontrollers Lab	B16 EC 3212	This course aims at enabling students to understand various aspects of instruction set of Intel microprocessors and microcontroller and Assembly language programming . This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
233	Verbal & Quantative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
234	Mini Project	B16 EC 3213	This course makes students apply the concepts related to processing algorithms to enhance images and videos, and compression and segmentation techniques of Images and Videos. This understanding plays a key role in students' getting employment in relevant industries.
235	Advanced Coding #M-III	B16 ENG 3204	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
236	Principles of Signals and Systems #M-III	B16 EC 3214A	This course makes students learn the concepts related to modern digital signal processing, communication and control systems. This understanding plays a key role in students' getting employment in relevant industries.
237	Analog Circuits #M-III	B16 EC 3214B	This course helps students understand the concepts related to electronic circuits and the principles behind an amplifier design. This understanding plays a key role in students' getting employment in relevant industries.
238	Microprocessors and Microcontrollers #M-III	B16 EC 3214C	This course enables students apply the concepts related to Microcontrollers & Microprocessors. This understanding plays a key role in students' getting employment in relevant industries.
239	Digital Image Processing	B16 EC 4101	The course Digital Image Processing contributes effectively to the employability skills of students by enabling them to learn the fundamental concepts of image, image processing and compression.
240	VLSI Design	B16 EC 4102	This course enables students to learn to apply CMOS technology-specific layout rules in the placement and routing of transistors which helps them gain employment in relevant industries.
241	Fiber Optic Communications	B16 EC 4103	This course enables students to understand concepts related to optical fibres and their types, properties and losses. This understanding is central to employability in various industries.
242	Microwave Engineering & Optical communications Lab	B16 EC 4104	Experiments conducted in this laboratory enable students to observe the behaviour of Microwave Components and Microwave Oscillators. The practical observations made in the lab contribute to learning that is required for employment in relevant industries.
243	Digital Communication Lab	B16 EC 4105	The experiments carried out in this lab consolidate student's understanding of the steps involved in the analysis and synthesis of digital communication modules. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
244	Project Phase-I	B16 EC 4106	This course makes students carry out activities that enable them to develop skills related to identifying a current problem by conducting literature/case/field studies.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
245	Cellular and Mobile Communications	B16 EC 4201	This course helps students learn fundamentals of mobile communication systems and enables them to acquire essential skills to get employment in relevant industries.
246	Computer Networks	B16 EC 4202	The course Computer Networks plays a very important role in the employment endeavours of a students. This course helps students familiarize with the fundamental concepts of computer networking and network models.
247	Internet of things.	B16 EC 4203	As an emerging technology the course IoT helps students understand IoT architecture and applications. The ability to apply this understanding in realtime projects is the most sought after quality in a candidate for employment.
248	Digital System design Through HDL	B16 EC 4204	This course enables the students to build combinational & sequential logic circuits and run simulations using Verilog HDL. The knowledge acqired through this course is instrumental in the employability prospects of a student.
249	Bio Medical Signal Processing.	B16 EC 4205	This course makes students understand the origin, properties and suitable models of important biological signal such as ECG and EEG of this course will be helpful for Skill development.
250	Satellite Communication	B16 EC 4206	This course aims at enabling the students to understand various aspects of KEPLAR'S laws planetary motion and space segment equipment. This understanding contributes to the development of skills needed for more advanced applications.
251	Digital TV	B16 EC 4207	The course Digital TV helps the stundents to understand various aspects of Video principles and different applications of TV transport system. This understanding contributes to the development of skills needed for more advanced applications.
252	Project Phase-II	B16 EC 4208	This course makes students Identify a current problem through literature/field/case studies and solve the problem by Analyzing, designing and developing a methodology. This practice helps them in getting employed in the relevant industries.
253	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardasing Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
254	Mathematics-I*	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
255	Mathematics-II*	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
256	Physics	B16 ENG 1105	The contents of physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
257	Engineering Graphics	B16 ENG 1107	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
258	Professional Ethics & Moral Values	B16 ENG 1109	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
259	Physics Lab	B16 ENG 1111	The experiments in Physics lab course are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
260	Workshop	B16 ENG 1113	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
261	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally the Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.
262	Chemistry	B16 ENG 1203	The study of chemistry involves a vast number of concepts and skills. The philosophy is to present the basic ideas and also to apply them to aspects of engineering where chemistry is important. The curriculum is applied with a judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind. Chemistry curriculum is directly related to the outcome of engineering program which depends on the chemistry input resources like water quality, building materials, corrosion control, battery technology, polymeric materials. This course enables students to analyze different materials used across technologies. The learning outcome of this course contributes to the skill development of students.
263	Computer Programming Using C & Numerical Methods	B16 ENG 1205	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
264	Circuit Theory	B16 EE1208	This course enables students to understand the concepts related to electrical circuits DC circuits, AC circuits. The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
265	Chemistry Lab	B16 ENG 1210	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
266	Computer Programming Using C & Numerical Methods Lab	B16 ENG 1212	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
267	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
268	Mathematics-IV	B16 ENG 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
269	Network Analysis & Synthesis	B16 EE 2101	This course makes students analyze DC transients, two port network. The learning outcomes of the course contribute to employability.
270	Electro Magnetic Field Theory	B16 EE 2102	This course focuses on the employability of students by making them learn basic concepts related to the effects of electrostatics and magnetostatics.
271	Electrical Measurements & Instruments	B16 EE 2103	This course focuses on employability of students by making them understand the concepts related Analog measurements, RL,C measurement using bridges, CRO.
272	Electronics Devices & Circuits	B16 EC 2104	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
273	Engineering Mechanics & Strength Of Materials	B16 ME 2106	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
274	Networks & Measurements Lab	B16 EE 2106	This course enables students to practice measuring of R,L and Capacitance values using bridge circuits and verification of theorems. The learning outcomes of the course contribute to skill development.
275	Electronics Devices & Circuits Lab	B16 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
276	English Proficiency	B16 ENG 2104	This course builds on the first course in General English and focuses on English language use in professional context with an emphasis on production (speaking and writing). It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
277	Industry Oriented Training.	B16 ENG 2106	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
278	Electrical Machines-I	B16 EE 2201	This course makes students understand regarding construction and operation of DC machines and Transformers . The learning outcomes of the course contribute to employability.
279	Signals & Systems	B16 EE 2202	This course makes students understand different signal and their analysis , fouries and Z-transform. The learning outcomes of the course contribute to employability.
280	Analog Electronics Circuits	B16 EC 2206	This course enables students learn the concepts related to different types of feedback amplifiers, power Amplifiers, oscillators and Tuned amplifiers. This understanding plays a key role in students' getting employment in relevant industries.
281	Primemovers & Pumps	B16 ME 2204	This course enables students in learning the characteristics of fluids and working nature of hydraulic machines that help in developing employability of the students.
282	Electrical Power Generation, Transmission & Distribution	B16 EE 2203	This course focuses on employability of students by making them understand different power plants generation, performance of transmission lines and overhead line insulators.
283	Thermal Prime Movers Lab	B16 ME 2207	This course relates to providing knowledge on functioning of various IC engines, viscosities, flash and fire points of oil samples that help in developing employability of the students.
284	Analog Electronic Circuits Lab with Simulation	B16 EC 2208	This course aims at helping students learn the concepts related to analog circuits, their analysis . This exposure gained from the course contributes to the development of skills needed for more advanced learning
285	Industry Oriented Technology Lab	B16 EE 2205	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc. It develops skills in students.
286	Industry Oriented Training	B16 ENG 2204	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
287	Electrical Machines-II	B16 EE 3101	This course makes students understand induction machines and synchronous machines operation. The learning outcomes of the course contribute to employability.
288	Power System Analysis and Stability	B16 EE 3102	This course focuses on employability of students by making them understand P>U representation, load flow studies, fault analysis and stability.
289	Linear Integrated & Pulse Circuits	B16 EC 3105	This course aims at enabling students to understand various aspects of characteristics of operational amplifier for linear and non linear applications. This understanding contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
290	Control Systems	B16 EE 3103	This course makes students understand the concentrates on different control system, block diagram SFG representation and controllers and stability. The learning outcomes of the course contribute to employability.
291	Digital Electronics & Logic Design	B16 EE 3104	This course focuses on employability of students by making them understand boolean algebra and different combinational and sequential logic circuits.
292	Computer Architecture and Organization #ELE-I	B16 EE3105	This course focuses on employability of students by making them understand computer architecture and organization, CPU and memory organization
293	Database Management Systems #ELE-I	B16 CS 3109	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
294	Digital Signal Processing #ELE-I	B16 EE 3106	This course focuses on employability of students by making them understand discrete time signals, Z transform application, fast fourier transform.
295	Electrical Machines-I Lab	B16 EE 3107	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer. The learning outcomes of the course contribute to skill development.
296	Linear Integrated Circuits & Pulse Circuits Lab with Simulation	B16 EC 3108	The experiments carried out in this lab consolidate student's understanding of the steps involved in design, assembly and evaluation of Linear integrated circuits & Pulse Circuits. The knowledge gained in this lab is essential to students in getting employment in relevant industries.
297	Verbal & Quantitative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
298	Basic Coding #M-I	B16 ENG 3103	This introductory course lays the foundation for programming and ability to use modern tools in ICT. Programming knowledge also inculcates system thinking and ability to reduce the problem to its fundamentals. It is a key skill required in modern work place of all engineering specialisations. It develops skills in students.
299	Design of Photovoltaic Systems #M-I	B16 EE3108A	This course focuses on employability of students by making them understand PV cell, energy from sun.
300	Architectural Design of Digital Integrated Circuits #M-I	B16 EE3108B	This course focuses on employability of students by making them understand Algorithm to Architecture Mapping, VLSI architectures.
301	Recent Advances in Transmission Insulators #M-I	B16 EE3108C	This course focuses on employability of students by making them understand important components of transmission system, High Voltage testing and techniques employed, HV testing techniques for Ceramic/glass Insulators, HV testing on Composite Insulators.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
302	Advanced Control Systems	B16 EE 3201	This course makes students understand the components, state space design, lead lag compensators. The learning outcomes of the course contribute to employability.
303	Power Electronics	B16 EE 3202	This course makes students understand the power semiconductor device, BJT, MOSFET, converters and Inverters and applications. The learning outcomes of the course contribute to employability.
304	Principles of Economics & Management	B16 ENG 3201	Students get exposure to the important micro economic concepts and Management tools and techniques which are useful for survival of organization in a competitive environment.
305	Power System Protection	B16 EE 3203	This course makes students understand fuses, circuit breakers, relays. The learning outcomes of the course contribute to employability.
306	Microprocessor & Microcontroller	B16 EE 3204	This course focuses on employability of students by making them understand 8085 microprocessor and microcontroller.
307	Electrical Machines -II Lab	B16 EE 3205	This course enables students to practice functioning of induction machines and synchronous machines. Regulation of alternator by ZPF method, $X_d$ and $X_q$ of synchronous machine. The learning outcomes of the course contribute to skill development.
308	Control Systems Lab	B16 EE 3206	This course enables students to practice first and second order system and characteristics of different controllers. DC and AC servomotor characteristics. The learning outcomes of the course contribute to skill development.
309	Verbal & Quantitative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
310	Mini Project	B16 EE 3207	The student gets to demonstrate his grasp of applied science and skills in handling Civil Engineering Instruments in solving a practical problem and formulation of a societal problem in engineering terms. It develops skills.
311	Advanced Coding #M-II	B16 ENG 3204	It improves skills and prepares student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
312	Matlab Programming for Numerical Computation #M-II	B16 EE 3208A	This course enables students to learn basic MATLAB programming for numerical computation. The learning outcomes of the course contribute to skill development.
313	Introduction to Internet of Things #M-II	B16 EE 3208B	This course focuses on the employability of students by making them learn basics of networking, sensor networks, application of IOT.
314	Electromagnetic Theory #M-II	B16 EE 3208C	This course focuses on the employability of students by making them learn Coulomb's law and electric fields, Biot-Savart and Ampere's laws, inductance calculation, Transmission lines, Smith chart, impedance matching.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
315	Industrial Automation And Control #M-III	B16 EE 3209A	This course enables students to understand Architecture of Smart Grid System, wide area monitoring. The learning outcomes of the course contribute to skill development.
316	Introduction to Smart Grid #M-III	B16 EE 3209B	This course focuses on the employability of students by making them understand Review of some simple MOS amplifiers, Introduction to negative feedback; frequency response and Bode plots.
317	Analog IC Design #M-III	B16 EE 3209C	This course focuses on the employability of students by making them understand Review of some simple MOS amplifiers, Introduction to negative feedback; frequency response and Bode plots.
318	Mechanism and Robot Kinematics #M-III	B16 EE 3209D	This course focuses on employability of students by making them understand Mobility Analysis-II, Displacement Analysis: constrained mechanisms and robots-I, displacement analysis, velocity analysis.
319	Electric Drives	B16 EE 4101	This course focuses on employability of students by making them understand rectifier and chopper controlled fed DC drives, control of induction motors.
320	Non-Conventional Energy Sources Elective-II	B16 EE 4102	This course focuses on employability of students by making them understand non conventional sources like solar, wind, ocean energy etc.
321	Energy Management and Auditing Elective-II	B16 EE 4103	This course makes students understand the energy auditing, lighting and economic aspects and analysis. The learning outcomes of the course contribute to employability.
322	Electrical Machine Design Elective-II	B16 EE 4104	This course focuses on employability of students by making them understand DC machines, transformers, induction machine design.
323	Operations Research Elective-III	B16 EE 4105	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes of the course contribute to employability.
324	Flexible AC Transmission Systems Elective-III	B16 EE 4106	This course makes students understand the different FACTS controller, SVC, TCSC and applications. The learning outcomes of the course contribute to employability.
325	Introduction to Soft Computing Elective-III	B16 EE 4107	This course makes students understand the various soft computing techniques like fuzzy and Neural networks. The learning outcomes of the course contribute to employability.
326	Microprocessor & Microcontroller Lab	B16 EE 4108	This course enables students to practice programming on 8-bit binary numbers, Working of 8085 processor and instruction set and microcontroller programming. The learning outcome of the course contribute to skill development.
327	Power Electronics Lab	B16 EE 4109	This course enables students to practice working of diode, rectifiers and inverters, operation of UJT, R and RC triggering. The learning outcomes of the course contribute to skill development.
328	Project Phase-I	B16 EE 4110	Skill and Employability



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
329	Power System Operation & Control	B16 EE 4201	This course focuses on employability of students by making them understand unit commitment and optimal power flow, Economical operation using thermal plants and combined hydro thermal plants.
330	Simulation Lab	B16 EE 4205	This course enables students to practice use of MATLAB tool for electrical systems like load flow problem, transmission line parameters, Automatic generation control etc. The learning outcomes of the course contribute to skill development.
331	Project Phase-II	B16 EE 4206	Skill development
332	Advanced Power Electronics ELECTIVE-IV	B16 EE 4202	This course focuses on employability of students by making them understand modern power semiconductor devices, DC to DC converters, AC to AC inverters, PWM techniques
333	Electrical Distribution Systems ELECTIVE-IV	B16 EE 4203	This course focuses on employability of students by making them understand design of substation and distribution feeder system
334	High Voltage Direct Current (HVDC) ELECTIVE-IV	B16 EE 4204	This course focuses on employability of students by making them understand HVDC transmission techniques, static power converters.
335	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardizing Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
336	Mathematics-I *	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
337	Mathematics-II *	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
338	Chemistry	B16 ENG 1104	It is a course that helps understand the material behaviour and quality of building materials, water, polymers under service and environmental stress conditions. These aspects are essential knowledge for structural, water resources and environmental professionals. It helps for employability skills.
339	Computer Programming Using C & Numerical Methods	B16 ENG 1106	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
340	Chemistry Lab	B16 ENG 1110	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
341	Computer Programming Using C & Numerical Methods Lab	B16 ENG 1112	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
342	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally the Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.
343	Physics	B16 ENG 1202	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
344	Engineering Graphics	B16 ENG 1204	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
345	Professional Ethics & Moral values	B16 ENG 1206	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
346	Probability, Statistics & Queueing Theory	B16CS1208	This course helps students develop decision making skills and coding skills in various dynamic business environments. Application of this knowledge is essential in almost all Engineering solutions.
347	Physics Lab	B16 ENG 1209	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
348	Workshop	B16 ENG 1211	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
349	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
350	Data Structures	B16 IT 2101	Advancement and Innovation in technology programming is becoming a highly in-demand skill for software developers. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
351	Elements of Electronics Engineering	B16 EC 2103	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
352	Discrete Mathematical Structures	B16 ENG 2102	The course DMS enables students to learn and apply mathematical concepts like Tatology, Boolean algebra, set theory and Graph Theory. The knowledge of these concepts contributes to skill development in the engineering applications like Digital circuits and Cryptography.
353	Object Oriented Programming Using C++	B16 IT 2102	This course develops logics to create programs/applications in C++.The learning outcomes of this course contribute to employability prospects of students.
354	Digital Logic Design	B16 IT 2103	Digital Logic Design uses develop hardware, such as circuit boards and microchip processors.The learning outcomes of this course contribute to employability prospects of students.
355	Data Structures Lab.	B16 IT 2104	This course develops advancement and innovation in technology, programming is becoming a highly in-demand skill for software developers. The learning outcomes of this course contribute to skill development prospects of students.
356	Object Oriented Programming Lab Using C++.	B16 IT 2105	This course develops logics to create programs/applications in C++.The learning outcomes of this course contribute to employability prospects of students.
357	English Proficiency	B16 ENG 2104	This course buildings on the first course in General English and focuses on English language use in professional context with an empahsis on production (speaking and writing). It helps for employability skills.
358	Industry Oriented Training.	B16 ENG 2105	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education.The learning outcomes of this course contribute to employability prospects of students.
359	Operating Systems	B16 IT 2201	This course is to develop low cost and efficient services, good algorithms, make use of space/time tradeoffs, special hardware, Low overhead and Low maintenance cost. The learning outcomes of this course contribute to employability prospects of students..
360	Computer Organization	B16 IT 2202	Computer Organization is concerned with the structure and behaviour of a computer system as seen by the user.The learning outcomes of this course contribute to employability prospects of students.
361	Microprocessors	B16 IT 2203	A microprocessor is a component that performs the instructions and tasks involved in computer processing. The learning outcomes of this course contribute to employability prospects of students.
362	Data Communications	B16 IT 2204	Data communications (DC) is the process of using computing and communication technologies to transfer data from one place to another, or between participating parties.The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
363	Operations Research	B16 IT 2205	It is a discipline that deals with the development and application of advanced analytical methods to improve decision-making. The learning outcomes of this course contribute to employability prospects of students.
364	Java Programming	B16 IT 2206	Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. The learning outcomes of this course contribute to employability prospects of students.
365	Java programming Lab	B16 IT 2207	Java is a high-level, class-based, object-oriented programming language that is designed to have as few implementation dependencies as possible. The learning outcomes of this course contribute to skill development prospects of students.
366	Digital Electronics & Microprocessors Lab	B16 IT 2208	A microprocessor and digital electronics is a component that performs the instructions and tasks involved in computer processing. The learning outcomes of this course contribute to employability prospects of students.
367	Python Programming	B16 IT 2209	Its design philosophy emphasizes code readability with the use of significant indentation. The learning outcomes of this course contribute to employability prospects of students.
368	Industry Oriented Training	B16 ENG 2203	While on-job training or technical skills are acquired, employability skills come naturally or are acquired through work experience, practices or education. The learning outcomes of this course contribute to employability prospects of students.
369	Computer Networks	B16 IT 3101	This course is considered as a fundamental course in understanding flow, propagation and type of data and the basic elements of networking. The learning outcomes of this course contribute to employability prospects of students.
370	Web Technologies	B16 IT 3102	This course Web technologies refers to the way computers/devices communicate. with each other using mark up languages. The learning outcomes of this course contribute to employability prospects of students.
371	Formal Languages And Automata Theory	B16 IT 3103	A formal language can be specified either by a set of rules that generates the language, or by a formal machine that accepts (recognizes) the language. The learning outcomes of this course contribute to employability prospects of students.
372	Database Management Systems	B16 IT 3104	This course focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity. The learning outcomes of this course contribute to employability prospects of students.
373	Principles of Programming Languages # ELE-I	B16 IT 3105	This course to introduce several different paradigms of programming. To gain experience with these paradigms by using example programming languages. The learning outcomes of this course contribute to skillability prospects of students.
374	Advanced Computer Architecture # ELE-I	B16 IT 3106	This course introduces students to advanced aspects of processor design and will specifically focus on out-of-order pipelines, GPUs, and compiler techniques for enhancing ILP. The learning outcomes of this course contribute to employability prospects of students.



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375	File Structures # ELE-I	B16 IT 3107	This course is to introduce file structure is a combination of representations for data in files. The learning outcomes of this course contribute to employability prospects of students.
376	Bio Informatics # ELE-I	B16 IT 3108	This course introduce the application of tools of computation and analysis to the capture and interpretation of biological data. The learning outcomes of this course contribute to employability prospects of students.
377	Database Management Systems Lab	B16 IT 3109	This course focuses on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity. The learning outcomes of this course contribute to employability prospects of students.
378	Web Technologies Lab	B16 IT 3110	Web technologies lab refers to the way computers/devices communicate with each other using mark up languages. The learning outcomes of this course contribute to employability prospects of students.
379	Verbal & Quantative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
380	Advanced Coding # M-I	B16 ENG 3104	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
381	IOs Application Development # M-I	B16 IT 3111A	This course focuses on the process of making mobile applications for Apple hardware, including iPhone, iPad and iPod Touch. The learning outcomes of this course contribute to employability prospects of students.
382	Ruby # M-I	B16 IT 3111B	Ruby is an interpreted, high-level, general-purpose programming language which supports multiple programming paradigms. The learning outcomes of this course contribute to employability prospects of students.
383	Programming, data structures and algorithms using Python # M-I	B16 IT 3111C	This course gives set of instructions that are executed to get the solution to a given problem. Since algorithms are not language-specific, they can be implemented in several programming languages.The learning outcomes of this course contribute to employability prospects of students.
384	Android App Development # M-II	B16 IT 3112A	Android software development is the process by which applications are created for devices running the Android operating system. The learning outcomes of this course contribute to skillability prospects of students.
385	Black chain Architecture Design and Usecase # M-II	B16 IT 3112B	Blockchain Technology is a structure that stores transactional records, also known as the block, of the public in several databases, known as the "chain," in a network connected through peer-to-peer nodes. The learning outcomes of this course contribute to employability prospects of students.
386	Testing Tools # M-II	B16 IT 3112C	This course is a product that supports one or more test activities right from planning, requirements, creating a build, test execution, defect logging and test analysis.
387	Machine Learning # M-II	B16 IT 3112D	Machine learning (ML) is a field of inquiry devoted to understanding and building methods that 'learn', that is, methods that leverage data to improve performance on some set of tasks. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
388	Data Ware Housing & Data Mining	B16 IT 3201	Data warehousing is a method of organizing and compiling data into one database, whereas data mining deals with fetching important data from databases. The learning outcomes of this course contribute to employability prospects of students.
389	Object Oriented Software Engineering	B16 IT 3202	Object-Oriented Software Engineering (OOSE) is a software design technique that is used in software design in object-oriented programming. The learning outcomes of this course contribute to employability prospects of students.
390	Design and Analysis of Algorithms	B16 IT 3203	Design and Analysis of Algorithm help to design the algorithms for solving different types of problems in Computer Science. The learning outcomes of this course contribute to employability prospects of students.
391	Compiler Design	B16 IT 3204	This course develops the concept of optimization in individual to achieve designed goals in engineering. Employability in this field requires core knowledge in this field. The learning outcomes of this course contribute to employability prospects of students.
392	Cryptography And Network Security	B16 IT 3205	This course focuses on The processed contents can be termed as information and this course prevents the unauthorized access, use, disclosure, modification, inspection or destruction of information through strong firewall procedures. The learning outcomes of this course contribute to employability prospects of students.
393	Image Processing #ELE-II	B16 IT 3206	This course is the enabling technology for the generation, transformation, extraction and interpretation of information via electronic signals. The learning outcomes of this course contribute to employability prospects of students.
394	Distributed Database Systems #ELE-II	B16 IT 3207	A distributed database (DDB) is an integrated collection of databases that is physically distributed across sites in a computer network. The learning outcomes of this course contribute to employability prospects of students.
395	Computer Graphics #ELE-II	B16 IT 3208	This course a sub-field of computer science which studies methods for digitally synthesizing and manipulating visual content. The learning outcomes of this course contribute to employability prospects of students.
396	Mobile Computing #ELE-II	B16 IT 3209	Mobile Computing is human-computer interaction in which a computer is expected to be transported during normal usage, which allows for the transmission of data, voice, and video. The learning outcomes of this course contribute to employability prospects of students.
397	Soft Computing And Neural Networks. #ELE-II	B16 IT 3210	Soft computing is a collection of methodologies, which aim to exploit tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost. The learning outcomes of this course contribute to employability prospects of students.
398	Software Engineering And Mini Project Lab	B16 IT 3211	This lab is exclusively used by for doing student research projects, mini-projects and for conducting software, hardware contests. The learning outcomes of this course contribute to skill development prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
399	Computer Graphics and Multimedia Lab	B16 IT 3212	This course focuses on The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities. The learning outcomes of this course contribute to employability prospects of students.
400	Verbal & Quantative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
401	Competitive Coding #M-III	B16 ENG 3205	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skill development prospects of students.
402	Amazon Web Services #M-III	B16 IT 3213A	Amazon Web Services offers reliable, scalable, and inexpensive cloud computing services. Free to join, pay only for what you use.The learning outcomes of this course contribute to employability prospects of students.
403	ASP.NET #M-III	B16 IT 3213B	ASP.NET is a free web framework for building great websites and web applications using HTML, CSS, and JavaScript. The learning outcomes of this course contribute to employability prospects of students.
404	Routing & Switching #M-III	B16 IT 3213C	Routers and switches are the building blocks for all business communications from data to voice and video to wireless access. The learning outcomes of this course contribute to employability prospects of students.
405	Data Science using Advanced Python #M-IV	B16 IT 3214A	This course Explore the next level of fundamentals that make a difference for data science teams in real organizations using complex data.The learning outcomes of this course contribute to employability prospects of students.
406	Angular JS #M-IV	B16 IT 3214B	Angular JS is a JavaScript-based open-source front-end web framework for developing single-page applications.The learning outcomes of this course contribute to employability prospects of students.
407	C#.NET and VB.NET #M-IV	B16 IT 3214C	C# is a general and modern object-oriented programming (OOP) language provided by Microsoft that runs on .Net Framework. The learning outcomes of this course contribute to employability prospects of students.
408	MAT LAB #M-IV	B16 IT 3214D	MATLAB is a proprietary multi-paradigm programming language and numeric computing environment developed by MathWorks.The learning outcomes of this course contribute to skill development prospects of students.
409	Cloud Computing	B16 IT 4101	This course enables access to software applications, data storage, and other services over the Internet instead of through physical servers...The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
410	Big Data Analytics	B16 IT 4102	This course is the often complex process of examining big data to uncover information such as hidden patterns, correlations, market trends and customer preferences that can help organizations make informed business decisions..The learning outcomes of this course contribute to employability prospects of students.
411	Principles of Economics And Management	B16 ENG 4101	This course assist in rational reasoning and defined thinking. They develop logical ability and strength of a manager..The learning outcomes of this course contribute to employability prospects of students.
412	Knowledge Engineering Lab	B16 IT 4103	This course focuses on the a field of artificial intelligence (AI) that creates rules to apply to data to imitate the thought process of a human expert..The learning outcomes of this course contribute to employability prospects of students.
413	Network Programming Lab	B16 IT 4104	This course provides information about network science and engineering research laboratory with a software-defined infrastructure. .The learning outcomes of this course contribute to employability prospects of students.
414	Project Phase-I	B16 IT 4105	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to entrepreneurship prospects of students.
415	Embedded Systems	B16 IT 4201	This course focuses on a microprocessor-based computer hardware system with software that is designed to perform a dedicated function.The learning outcomes of this course contribute to employability prospects of students.
416	Internet of Things Lab	B16 IT 4207	This course describes the network of physical objects—"things"—that are embedded with sensors, software, and other technologies .The learning outcomes of this course contribute to employability prospects of students.
417	Project Phase-II	B16 IT 4208	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to entrepreneurship prospects of students.
418	Artificial Intelligence # ELE-III	B16 IT 4202	This course is able to perform tasks normally requiring human intelligence, such as visual perception, speech recognition, decision-making, and translation between languages..The learning outcomes of this course contribute to employability prospects of students.
419	Information Retrieval # ELE-III	B16 IT 4203	This course focuses on tracing and recovery of specific information from stored data..The learning outcomes of this course contribute to employability prospects of students.
420	Advanced Operating Systems # ELE-III	B16 IT 4204	This course addresses on a broad range of topics in operating system design and implementation, including: Operating system structuring. Synchronization, communication and scheduling in parallel systems..The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
421	Software Project Management # ELE-III	B16 IT 4205	This course focuses on the dedicated to the planning, scheduling, resource allocation, execution, tracking, and delivery of software and web projects..The learning outcomes of this course contribute to employability prospects of students.
422	E-Commerce # ELE-III	B16 IT 4206	This course focuses to learn difference between a visitor and a customer..The learning outcomes of this course contribute to employability prospects of students.
423	English *	B16 ENG 1101	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardasing Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
424	Mathematics-I*	B16 ENG 1102	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
425	Mathematics-II*	B16 ENG 1103	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
426	Physics	B16 ENG 1105	The contents of physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
427	Engineering Graphics	B16 ENG 1107	This course focuses on improvemnet of visualization and imagination skills of an engineer to make and read engineering drawings.
428	Professional Ethics & Moral Values	B16 ENG 1109	The course Professional Ethics and Moral Values aims at helping students learn various aspects of building trust, maintaining a good reputation, making lasting connections and ensuring positive outcomes on projects. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
429	Physics Lab	B16 ENG 1111	The experiments in Physics lab course are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also.This will enhance their skills in different disciplines there by producing employability in their field.
430	Workshop	B16 ENG 1113	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
431	Mathematics-III *	B16 ENG 1201	The course covers estimation of surface areas and volumes of complex shapes which is essential in estimation of materials and costing of projects. Additionally the Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
432	Chemistry	B16 ENG 1203	The study of chemistry involves a vast number of concepts and skills. The philosophy is to present the basic ideas and also to apply them to aspects of engineering where chemistry is important. The curriculum is applied with a judgment to develop ways to utilize, economically, the materials and forces of nature for the benefit of mankind. Chemistry curriculum is directly related to the outcome of engineering program which depends on the chemistry input resources like water quality, building materials, corrosion control, battery technology, polymeric materials. This course enables students to analyze different materials used across technologies. The learning outcome of this course contributes to the skill development of students.
433	Computer Programming Using C & Numerical Methods	B16 ENG 1205	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
434	Metallurgy and Materials Engineering	B16 ME1208	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
435	Chemistry Lab	B16 ENG 1210	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
436	Computer programming Using C & Numerical Methods Lab	B16 ENG 1212	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhances their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
437	English Language Lab *	B16 ENG 1213	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
438	Mathematics-IV	B16 ENG 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
439	Mechanics of Solids	B16 ME 2101	This course deals with engineering properties of materials, bending of beams and stress-strain relationship which help developing employability skills of the students.
440	Thermodynamics	B16 ME 2102	This course deals with law of thermodynamics, thermal systems and thermodynamics relations that help in developing employability of the students.



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441	Manufacturing Process	B16 ME 2103	This course focuses on various methods of converting raw materials to finished products that help in developing employability of the students.
442	Engineering Mechanics	B16 ME 2104	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
443	Mechanical Engineering Drawing	B16 ME 2105	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
444	Mechanical Engineering Lab	B16 ME 2107	This course concentrates on the characteristics of working with IC engine of various engineering applications which helps in developing skills of the students.
445	Mechanics of Solids Lab	B16 CE 2108	This course builds on Engineering Mechanics and Mechanics of Solids to take the student closer to real life building elements of all sizes, shapes and structural function. Various Theorems on the stresses, strains, deflections under complex loads help design the structural elements. It helps for employability skills.
446	English Proficiency	B16 ENG 2104	This course builds on the first course in General English and focuses on English language use in professional context with an emphasis on production (speaking and writing). It helps for employability skills.
447	Auto CAD	B16 ME 2108	This course enables students to master the usage of CAD packages to make engineering drawings which help in developing employability of the students.
448	Advanced Strength of Materials	B16 ME 2201	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
449	Thermal Engineering	B16 ME 2202	This course focuses on orienting the applications of different types of power plants, boilers, condenser, steam nozzles and steam turbines that help in developing employability of the students.
450	Metal Cutting & Machine Tools	B16 ME 2203	This course enables students in gaining knowledge on conventional Machining which helps in developing employability of the students.
451	Engineering Economics	B16 ENG 2202	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
452	Basic Electrical & Electronics Engineering	B16 EE 2204	This course focuses on employability of students by making them understand DC and AC circuits, Machines and diodes.
453	Manufacturing Process Lab	B16 ME 2205	This course enables students in gaining knowledge on conventional & unconventional Machining and Properties of moulding sand that help in developing employability of the students.
454	Basic Electrical & Electronics Engineering Lab	B16 EE 2206	This course enables students to practice functioning of DC machines and load test on DC machines and KCL and KVL laws verification. The learning outcomes of the course contribute to skill development.



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455	Industry Oriented Technology Lab	B16 ME 2206	This course enables students in learning the basic CATIA skills of data and transform it into graphic drawings that help augment skills of the students.
456	Theory of Elasticity	M16 ST 1101	The course is advanced to strength of materials and it gives a deep insight into the elastic behaviour in materials and three dimensional analysis which is very much useful in analysing the complex structures. It helps for employability skills.
457	Operations Research	B16 ME 3101	The course familiarizes the use of practice oriented mathematical applications for optimization functions in an organization, which in turn, helps students for entrepreneurship.
458	Fluid Mechanics	B16 ME 3102	This course enables students in learning the characteristics of fluids which helps in augmenting employability of the students.
459	IC Engines & Gas Turbines	B16 ME 3103	The course imparts the knowledge of combustion in IC engines, compressors and gas turbines in engineering applications, which paves a way for employability.
460	Industrial Measurements & Metrology	B16 ME 3104	The course exposes the various mechanical and electrical engineering measuring devices, and different degree of accuracy obtained from different types of instruments, which leads to employability.
461	Kinematics of Machines	B16 ME 3105	The course concentrates on the study of the relative motion, velocity, and accelerations of the various elements in a mechanism, cam, gears & gear trains, which helps for employability.
462	Finite Element Analysis #ELE-I	B16 ME 3106	This course concentrates on performing finite element analysis on 1D and 2D structural Trusses and Beams and Axisymmetric solid that help in developing skills of the students.
463	Automation in Manufacturing #ELE-I	B16 ME 3107	This course enables students in acquiring the knowledge on the principles of advanced manufacturing process and various automation strategies used in production systems that help in developing employability of the students
464	Tool Design #ELE-I	B16 ME 3108	This course deals with locating and clamping principles, functions and design principles of Jigs and fixtures that help in developing both employability and entrepreneurship of the students.
465	Non Conventional Energy Resources #ELE-I	B16 ME 3109	This course enables students in gaining knowledge in non-conventional sources of energy and techniques used in exploiting solar, wind, tidal and geothermal sources of energy and bio-fuels that help in developing employability of the students.
466	Production Planning and Control #ELE-I	B16 ME 3110	This course focuses on the steps of production control, types of control and control organization and its significance that help in developing the entrepreneurship of the students.
467	Rapid Prototyping #ELE-I	B16 ME 3111	This course concentrates on Rapid Prototype tools and techniques and additive manufacturing techniques for designing and Manufacturing that help in enhancing employability of the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
468	Industrial Metrology & Mechatronics Lab	B16 ME 3112	This course enables students in exploring various mechanical and electrical engineering measuring devices, and different degree of accuracy obtained from different types of instruments that help augmenting the employability skills of the students.
469	IC Engines Lab	B16 ME 3113	This course enables students in practical approach to I.C Engines , four bar chain mechanisms and finding friction power in single and multi cylinder engines that help in developing employability skills of the students.
470	Verbal & Quantitative Aptitude-I	B16 ENG 3102	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
471	Introduction To Abrasive Machining And Finishing Processes # M-I	B16 ME 3114A	This course focuses on the effects of various input parameters on the outputs as well as the use of cutting fluids in various finishing processes that help in developing employability of the students.
472	Principles of Casting Technology # M-I	B16 ME 3114B	This course is to provide a sound understanding of concepts and principles of casting technology with which students augment their employability skills.
473	Principles of Metal Forming Technology # M-I	B16 ME 3114C	This course focuses on the concept of stress, deformation and failure, mechanics of metalworking and analysis of different metal working processes that help in developing the employability of the students.
474	Mechanics of Machining # M-I	B16 ME 3114D	This course focuses on statics, kinematics and kinetics of the cutting process that enhances employability of the students.
475	Manufacturing Of Composites # M-II	B16 ME 3115A	This course focuses on composites of manufacturing, thermoset and thermoplastic and Composites manufacturing processes that help in enhancing employability of the students.
476	Processing of Polymers and Polymer Composites # M-II	B16 ME 3115B	This course focuses on the various processing techniques of polymers that help in developing employability of the students.
477	Robotics # M-II	B16 ME 3115C	This course enables students to analyse, design and construction of robots that augment employability prospects of the students.
478	Analysis and Modelling of Welding # M-II	B16 ME 3115D	This course concentrates on understanding welding and its techniques that help in developing entrepreneurship of the students.
479	Industrial Engineering & Management	B16 ME 3201	The course focuses on acquiring full knowledge on production planning and control ,material handling principles and maintenance practices, which are conducive for employability.
480	Fluid Machinery & Systems	B16 ME 3202	This course concentrates on learning the characteristics of fluids and working of hydraulic machines that help in developing employability of the students.
481	Design of Machine Elements	B16 ME 3203	The course formulates and analyzes stresses and strains in machine elements like shafts, springs etc and structures under static and/or dynamic load conditions, which helps for employment skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
482	Refrigeration and Air Conditioning	B16 ME 3204	This course enables students to construct the fundamentals of air conditioning & refrigeration cycle and C.O.P that help augmenting the employability skills of the students.
483	Dynamics of Machines	B16 ME 3205	The course aims at developing the knowledge on dynamic balancing, flywheel analysis, vibrations ,gyroscopic forces and moments, which help students for employability.
484	Control Systems # ELE-II	B16 ME 3206	The course tries to familiarize on the basic concepts of feedback characteristics ,develop mathematical models and stability of control systems, which pave a way for employaility.
485	Optimization Techniques # ELE-II	B16 ME 3207	entreprenurship: Familiarize the use of practice oriented mathematical applications for optimization functions in an organization.
486	Automobile Engineering # ELE-II	B16 ME 3208	This course enables students in Constructing vehicle chassis, frame, body and engine components that help in developing employability prospects of the students.
487	Supply Chain Management # ELE-II	B16 ME 3209	This course enables students in learning the finance, marketing, logistics, and operations management that help in developing entrepreneurship skills of the students.
488	Nano Technology # ELE-II	B16 ME 3210	This course focuses on familiarizing the science of nano materials, various characterization techniques, and the nano information storage system that help in developing employability prospects of the students.
489	Computational Fluid Dynamics # ELE-II	B16 ME 3211	This course aims at applying the finite difference method and explicit and implicit schemes on fluid dynamics method that help in developing employability prospects of the students.
490	Industrial Engineering Lab	B16 ME 3212	This course enables students in learning the different methods of finding the standard time for a job and process charts used for improving the method of doing the work that help in developing employability prospects of the students.
491	Fluid Mechanics & Machines Lab	B16 ME 3213	This course enables students in demonstrating the working principles and fundamentals of Fluid mechanics, turbines and pumps that help in developing the employability skills of the students.
492	Verbal & Quantitative Aptitude-II	B16 ENG 3202	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et. It helps for employability skills.
493	Mini Project	B16 ME 3214	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
494	Basic Coding # M-III	B16 ENG 32034	Content with direct bearing on Employability
495	Design For Quality, Manufacturing and Assembly # M-III	B16 ME 3215A	This course focuses on acquiring knowledge on the need to account for variability to mathematically represent, formulate and control it that helps in developing the employability prospects of the students.



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496	Introduction to Research # M-III	B16 ME 3215B	This course aims at learning experimental design methodology, data collection methodology that help in developing the entrepreneurship skills of the students.
497	Nature and Properties of Materials # M-III	B16 ME 3215C	This course focuses on learning the underlying principle governing the material properties that help in developing employability prospects of the students.
498	Computer Aided Design	B16 ME 4101	The course aims at learning of Computer Graphics, Solid Modeling and also in CAD software, which is helpful for employability.
499	Machine Design	B16 ME 4102	The course focuses on the design of mechanical components empowering students for employability.
500	Heat and Mass Transfer	B16 ME 4103	The course familiarizes the heat transfer rate in conduction, convection and radiation and their industrial applications helping for employability.
501	Mechanical Vibrations # ELE-III	B16 ME 4104	The course concentrates on developing the equations of motion for a continuous system in elongation, bending and torsion to find the natural frequencies and mode shapes, which make a way for employability.
502	Project Management # ELE-III	B16 ME 4105	The course helps in acquiring all the key skills to become effective project managers across various industries, which develops entrepreneurship skills.
503	Non-Destructive Testing # ELE-III	B16 ME 4106	The course familiarizes magnetic particle testing, radiographic testing and ultrasonic testing, which develop entrepreneurship skills.
504	Power Plant Engineering # ELE-III	B16 ME 4107	The course concentrates on applications of different types of power plants, boilers, condenser and reactor, which help students for employability.
505	Mechatronics # ELE-III	B16 ME 4108	The course aims at acquiring knowledge of sensors, actuators and practical applications of mechatronic systems, which pave a way for employability.
506	Design for Manufacturing # ELE-III	B16 ME 4109	The course examines DFM principles including how the design affects manufacturing cost, lean manufacturing, six sigma, etc.. which helps for employability skills.
507	Heat Transfer Lab	B16 ME 4110	The course focuses on the demonstration of heat exchanger, conduction, convection and radiation of heat through metals and insulation powder, which in turn, help the students for employability.
508	Project Phase-I	B16 ME 4111	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
509	Computer Aided Manufacturing	B16 ME 4201	The course concentrates on learning CNC Retrofitting, Group Technology, NC techniques and FMS systems, which enhances employability for students.
510	Quality Control and Assurance	B16 ME 4202	The course deals with the basic principles of quality management and designing different sampling plans for the purpose of inspection, which helps for employability.



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511	CAD/CAM Lab	B16 ME 4203	The course deals with the obtained knowledge on various commands in CAD software for modelling 2D & 3D objects and structural components which go a long way for skill development.
512	Project Phase-II	B16 ME 4204	The course focuses on the application of engineering knowledge to get an Mechanical engineering output, which helps for employability.
513	Advanced Reinforced Concrete Design	M16 ST 1102	This is an advanced course to the reinforced concrete design which is one of important course in civil Engineering. The load considerations and designs criterion of typical structures like grid slabs, flat slabs, fire resistant detailing etc were discussed in the course which are useful in designing the real time structures. It helps for employability skills.
514	Matrix methods of Structural Analysis	M16 ST 1103	The course mainly focuses on the matrix methods in analysing the indeterminate structures which are basis for developing the structural analysis softwares. It helps for employability skills.
515	Structural Dynamics	M16 ST 1104	The course majorly focus on the dynamic analysis of structure and mode shapes which are mainly useful in the analysis of structures designed as Earthquake Resistant. It helps for employability skills.
516	Computer applications in Structural Engineering	M16 ST 1111	The Engineer gains experience in solving design and analysis problems using programming and specific tools such as spreadsheets and software packages. These skills are essential to become a designer or consultant. It develops skills for students.
517	Design of Structures	M16 ST 1112	This laboratory course helps the students to develop their skills in design field and also to get expertise in the design of structures like retaining walls, folded plates, buried pipes, different floor systems etc. It develops skills in students.
518	Advanced Foundation Engineering #1- Elective-I	M16 ST 1105	This course discusses about the soil related issues like bearing capacity, shear strength, settlement criteria of different type of soils which is very useful in designing different type of foundations to real life structures. It helps for employability skills.
519	Wind Analysis and Design of Tall Structures #1-Elective-I	M16 ST 1106	This course mainly focuses on the analysis and design of tall structures like bunkers, silos, chimneys, etc. The concepts involved in the course like load considerations, shear wall behaviour, multy storey frames and later load analysis are very much useful in analysis and design of tall structures. It helps for employability skills.
520	Experimental Stress Analysis #1-Elective-I*	M16 ST 1107	The structural engineer who intends to build novel forms with new material need to test scaled down models and capture data under different loading conditions and environmental stress. The methods taught in this course help a structural engineer in choosing the right set of data capturing systems and building model materials in conducting physical modeling tests. It helps for employability skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
521	Advanced Concrete Technology #2- Elective-II	M16 ST 1108	This course is an advanced one to the basic concrete technology. This course mainly discusses about the different special concretes that are used in construction field and their properties and different destructive, semi destructive and non destructive testing methods that are used in the present construction industry. It also gives the deep insight into the different codal provisions used in different countries in designing the concrete mix, which helps the student to work in and out the country. It helps for employability skills.
522	Bridge Engineering #2- Elective-II	M16 ST 1109	This course focuses on the design of different types of bridges and also creates awareness on the bridge bearings and their uses that are used in real life bridges. It helps for employability skills.
523	Optimization Techniques #2- Elective-II	M16 ST 1110	This course discusses about the usage of various optimization techniques like linear and non linear programming, quadratic programming in solving various constructional and design problems. It helps for employability skills.
524	Theory of Plates and Shells	M16 ST 1201	The structural engineer increasingly needs to realise the whims of deconstructivist architects whose forms and elements do not have references in design codes. The theoretical underpinnings of plates and shells arms him with the knowledge to handle such design challenges in his career. It helps for employability skills.
525	Structural Stability	M16 ST 1202	Metal is an important material used in high rise buildings. The advanced understanding of steel and other building elements under loading conditions is essential for the structural designer involved in steel design. It helps for employability skills.
526	Finite Element Methods of Analysis	M16 ST 1203	The course equips the structural engineer with finite element approaches in analysing complex geometries of structures under complex loading conditions. It helps for employability skills.
527	Earthquake Engineering	M16 ST 1204	This course develops the knowledge on engineering seismology and seismic codal provisions which helps in designing the earthquake resistant structures. It helps for employability.
528	Repair and Rehabilitation of Structures	M16 ST 1211	This course helps the students in developing the knowledge to assess the damage intensity in the structures and to provide suitable repair and rehabilitation techniques. It helps for employability skills.
529	Advanced Design of Structures	M16 ST 1212	The course gives design experience in the most unique type of structures encountered in infrastructures. The course addresses designs which are not usually found in design codes. The design of these buildings is unique to the loading conditions and the environmental stress expected on them. It helps for employability skills
530	Reliability Analysis and Design #3-Elective-III	M16 ST 1205	The course helps use statistical tools in gauging the performance of individual building elements under loads and the ensemble of a variety of elements. It helps for employability skills.



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531	Prestressed Concrete #3-Elective-III	M16 ST 1206	The course provides specialised knowledge in concrete structures design using pre-stressed technology. This type of design is increasingly used in large scale infrastcture projects for saving costs, time and increasing reliability and performance of the structures. It helps for employability skills.
532	Ground Improvement Techniques #3-Elective-III	M16 ST 1207	The course is a specialisation for a Geotechnical Engineer to handle complex soil conditions that do not permit construction of buildings or hamper their durability. The course covers proven strategies for soild modification to improve its ability to support structures and their loads. It helps for employability skills.
533	Industrial Structures #4-Elective-IV	M16 ST 1208	This course mainly imparts knowledge on requirements of industrial structures, materials used and construction techniques which will be helpful in analysis and desing of industrial steel structures and communication towers etc. It helps for employability skills.
534	Design of steel bridges #4-Elective-IV	M16 ST 1209	The students gets adept at design of steel bridges based on Limit State Design approach as per the Indian Steel Design Code. This is an essential skill in structural design of bridges. It helps for employability.
535	Inelastic Design of Slabs #4-Elective-IV	M16 ST 1210	The course equips the strcutural engineer with design approaches for complex loading conditions of RCC slabs in structures. It helps for employabilty.
536	Thesis Work- Preliminary	M16 ST 2101	The preliminary thesis work gives an opportunity at identifying the problem, formulation of analysis and design. The preliminary work also gives an opportunity to identify the existing solutions through systematic literature review and design reviews. It develops skills and helps for employability too.
537	Thesis Work- Final	M16 ST 2201	The final thesis work offers an opportunity to test ones mastery of design, analysis, communication, team work and other skills that are expected at the workplace. It develops skills and also helps for employability.
538	Mathematical Foundations of Computer Science	M16 CST 1101	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
539	Data Structures & Algorithms	M16 CST 1102	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
540	Advanced Data Base Management Systems	M16 CST 1103	This course includes database analysis & design in addition of its fundamentals and SQL. It enables the students' competencies of dealng effectively with DBMS which will inturn contribute their employability skills.



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541	Advanced Operating Systems	M16 CST 1104	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
542	Data Structures & Programming Lab	M16 CST 1113	This course enables students to acquire essentials skills in study of instruction set design, parallel processing,bit instruction and distributed computing which makes the students employable.
543	Database Management Systems Lab	M16 CST 1114	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
544	Computer Organization & Architecture #1- Elective-I	M16 CST 1105	This course enables students learn the concepts related to mathematics foundation for computer applications and graph theory with applications to engineering. This understanding plays a key role in student's employment in relevant industries.
545	E-Commerce #1- Elective-I	M16 CST 1106	This course enables the students to understand the process models and analyze the concept of e-business logic. This knowledge will help them gain better employability opportunities.
546	Embedded Systems #1- Elective-I	M16 CST 1107	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
547	Image Processing #1- Elective-I	M16 CST 1108	This course helps the students learns the concepts related to image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
548	Computer Networks #2- Elective-II	M16 CST 1109	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
549	Cloud Computing #2- Elective-II	M16 CST 1110	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence. This understanding plays a key role in student's getting employment in relevant industries
550	Grid Computing #2- Elective-II	M16 CST 1111	This course makes students to be familiar with the fundamental components of Grid environments such as, authentication, authorization, resource access, and resource discovery. This exposure gained from the course contributes to the development of skills needed for grid computing.
551	Computer Graphics & Visual Computing #2- Elective-II	M16 CST 1112	This course aims at enabling the students to learn various aspects of graphical design , photography etc . This exposure gained from the course contribites to the employability of students in relevant industries.
552	Artificial Intelligence	M16 CST 1201	This course deals with concetpts automation of human intelligence which help them gain better employability oppertunities and build better carrier in the area of AI and Neural Networks. these skills will play a key role in student's getting employment in relevant industries,



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553	Object Oriented Software Engineering	M16 CST 1202	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program helps the students in acquiring employability and entrepreneurship skills.
554	Compiler Design	M16 CST 1203	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
555	Data Warehousing & Data Mining	M16 CST 1204	This course makes students learn the data warehousing concepts related to schemas, attributes for storing and handling different data formats. Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
556	Data Warehousing & Mining Lab	M16 CST 1213	This course makes students learn the data warehousing concepts related to schemas, attributes for storing and handling different data formats. Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
557	OOSE Lab	M16 CST 1214	This course includes fundamentals of software development tools along with software analysis, design and development. After completing this course students can easily adjust to the working environment once they are employed. It is also useful to acquire Software Engineer jobs.
558	Parallel Programming #3-Elective-III	M16 CST 1205	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficient and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
559	Semantic Web #3- Elective-III	M16 CST 1206	This course makes students to understand the concept of semantic web technology. This knowledge will contribute to student's getting employability in relevant industries.
560	Big Data Analytics #3- Elective-III	M16 CST 1207	This course deals with concepts like hadoop architecture, pig and hive which will help them gain better employability opportunities and build a better career
561	Database Security #3- Elective-III	M16 CST 1208	This course helps the students to understand the concepts of database security and help to learn the security issues. This understanding and knowledge of database security creates employability opportunities in relevant industries.
562	Mobile Computing #4- Elective-IV	M16 CST 1209	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
563	Soft Computing #4- Elective-IV	M16 CST 1210	This course enables the students to learn the concepts of fuzzy systems, fuzzy logic and its applications. This knowledge will contribute to student's getting employability in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
564	Cluster Computing #4- Elective-IV	M16 CST 1211	This course enables the students to acquire the knowledge of cluster computing, virtualization technologies.
565	Pervasive Computing #4-Elective-IV	M16 CST 1212	This course enables the students to expose to latest technologies and pervasive computing like smart identification. This knowledge will contribute to student's getting employability in relevant industries.
566	Thesis Work - Preliminary	M16CST2101	This course includes a Final Project in the M.Tech and is a test bed to refine their skills and also a launch pad to learn the required job skills and research orientation for their future research work
567	Thesis Work-Final	M16CST2201	This course includes a Final Project in the M.Tech and is a test bed to refine their skills and also a launch pad to learn the required job skills and research orientation for their future research work
568	Communication Theory	M16 CS 1101	This course makes students learn the concepts related to analyzing error performance of a digital communication system, the signal flow in Analog and digital communication and building blocks. This understanding plays a key role in students' getting employment in relevant industries.
569	Communication Techniques	M16 CS 1102	This course aims at helping students understand aspects of analyzing error performance, spread spectrum, error detection and correction, different types of channel coding techniques such as linear block codes, cyclic code and convolution codes. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
570	Satellite Communication and Phased Arrays	M16 CS 1103	This course aims at enabling students to learn various aspects of the orbiting satellites, multiplexing schemes, MSAT and VSAT networks. These learning outcomes contribute to the development of skills needed for more advanced applications.
571	Digital signal processing	M16 CS 1104	This course helps students apply the concepts related to various optimization techniques, sampling rate requirement in the digital signal applications, need for prediction, filtering & smoothening of the signals to minimize the mean-square error (MSE) and different DSP algorithms. The learning outcomes of the course contribute to improving employability prospects of students.
572	Optical Fibers and Applications	M16 CS 1105	This course makes students understand the concepts related to the operation of LEDs, laser diodes, and PIN photo detectors, designing, building, and demonstrating optical fiber. This understanding plays a key role in improving employability prospects of students in relevant industries.
573	Communication Engineering Lab	M16 CS 1110	This course aims at helping the students learn various aspects of the basic theories of communication system, computer simulation tools such as MATLAB to carry key analysis tool. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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574	EMI/EMC #1-Elective-I	M16 CS 1106	This course aims at enabling students to learn various aspects of the fundamentals those are essential for electronics industry in the field of EMI / EMC. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
575	Microwave Components and Networks #1-Elective-I	M16 CS 1107	This course aims at helping the students learn various aspects of static electric fields, steady magnetic fields, Maxwell's Equations and EM wave, the operation of different waveguide, experimental procedures involving measurements of different Microwave parameters. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
576	Advanced Microprocessor #1-Elective-I	M16 CS 1108	This course aims at helping the students to learn various aspects about the architecture, pin configuration, and addressing modes of 8086. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
577	Embedded Systems #1-Elective-I	M16 CS 1109	This course aims at enabling students to learn various aspects of basic functions, applications of embedded systems. The learning outcomes of this course contribute to the improvement of employability prospects of students.
578	RF and Microwave Engineering	M16 CS 1201	This course aims at helping the students learn various aspects of RF/microwave analysis methods, Passive and active devices commonly utilized in microwave subsystems, Analytical techniques for designing of Amplifiers and oscillators. These learning outcomes contribute to the improvement of employability prospects of students.
579	Cellular and Mobile Communications	M16 CS 1202	This course aims at helping students learn various aspects of cellular radio such as frequency reuse, handoff, operation of basic cellular system, performance criterion and current and future cellular mobile communication systems. These learning outcomes contribute to the improvement of employability prospects of students.
580	GPS and Applications	M16 CS 1203	This course aims at helping students to learn various aspects of the basic principle of GPS, difference between GPS, GALILEO and GLONASS, the concepts of different co-ordinates system used in GPS. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
581	Telecommunication Switching and Networks	M16 CS 1204	This course aims at helping the students learn various aspects of switching systems, design of different switching systems, different signaling techniques and networks and topologies. These learning outcomes contribute to the improvement of employability prospects of students.
582	Digital Signal Processing Lab	M16 CS 1213	This course makes students apply the concepts related to Fast Fourier Transform in a variety of applications including: signal analysis, fastconvolution, spectral and temporal interpolation, and filtering, Perform the deconvolution of two signals, LPC Speech coding, JPEG image compression, Image Encryption & Watermarking. These learning outcomes contribute to the improvement of employability prospects of students.



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583	Modeling and Simulation of Communication Systems #2-Elective-II	M16 CS 1205	This course aims at enabling students to investigate and analyze complex engineering systems and associated issues and to apply underpinning natural, physical and engineering sciences, mathematics, statistics, computers and information sciences. These learning outcomes contribute to the improvement of employability prospects of students.
584	Modern Radar Systems #2-Elective-II	M16 CS 1206	This course aims at helping students learn various aspects of fundamentals of RADAR, signal detection in RADAR and various detection techniques, and RADAR navigation techniques. These learning outcomes contribute to the improvement of employability prospects of students.
585	Digital Image Processing #2-Elective-II	M16 CS 1207	This course aims at helping students learn various aspects of image analysis techniques in the form of image segmentation, tools used in Image Processing. This exposure gained from the course contributes to the development of skills.
586	VLSI Design #2-Elective-II	M16 CS 1208	This course aims at helping students learn various aspects related to the basics of Analog VLSI circuits, Opamp design in CMOS and basic features of VHDL language. This understanding plays a key role in improving the employability prospects of students.
587	Application Specific Integrated Circuits (ASIC) #3-Elective-III	M16 CS 1209	This course aims at helping students learn various aspects of semi custom IC Design, FPGA and ASIC design flow, Clock generation circuits, High Speed I/Os, Memory modules and Data Conversion Circuits. These learning outcomes contribute to the improvement of employability prospects of students.
588	Multimedia Communication Systems #3-Elective-III	M16 CS 1210	This course enables students to conceptualize the aspects related to multimedia communications systems, application and basic principles and analysis of the multimedia streaming. These learning outcomes contribute to the improvement of employability prospects of students in relevant industries.
589	Wavelet Transforms and Its Applications #3-Elective-III	M16 CS 1211	This course aims at helping students learn various aspects related to the basics of different transforms and time-frequency and time-scale representations of signals, Multi Resolution Analysis (MRA) framework, Extension to 2D, Bi-orthogonal wavelets and Wavelet packets. These learning outcomes contribute to the improvement of employability prospects of students in relevant industries.
590	Statistical Signal Processing #3-Elective-III	M16 CS 1212	This course aims at helping students learn various aspects of the basic theory of signal detection and estimation, fundamental understanding of statistical signal processing. This understanding plays a key role in students getting employment in relevant industries.
591	Thesis Work - Preliminary	M16 CS 2101	This course helps develop the skills in different programming skills. The learning outcomes of this course contribute to skill development prospects of students.



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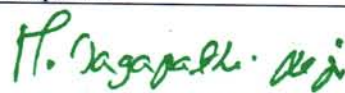


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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
592	Thesis Work- Final	M16 CS 2201	This course helps develop the skills in different programming skills. The learning outcomes of this course contribute to skill development prospects of students.
593	Advanced Power System Operation and Control	M16 PS 1101	This course focuses on employability of students by making them understand unit commitment and optimal power flow, Economical operation using thermal plants and combined hydro thermal plants.
594	Optimization Techniques	M16 PS 1102	This course makes students understand the different optimization techniques for solving problems. The learning outcomes of the course contribute to employability.
595	Advanced Drives and Control	M16 PS 1103	This course focuses on employability of students by making them understand transfer function of DC motor, P and PI control of DC and AC motors
596	Advanced Control System Design	M16 PS 1104	This course focuses on employability of students by making them understand design of control system - lead lag, Tuning methods
597	Power System Simulation Lab-I	M16 PS 1108	This course enables students to practice usage of MATLAB to electrical problems like Simulate Ferranti Effect, model transmission line, load frequency control etc. The learning outcomes of the course contribute to skill development.
598	Renewable Energy Systems #1-Elective-I	M16 PS 1105	This course focuses on employability of students by making them understand wind, solar energy systems
599	Power System Modeling #1-Elective-I (ASIC) #3-Elective-III	M16 PS 1106	This course makes students understand the Vconcept of 2-axis for electrical machine and modelling transmission . The learning outcomes of Circuits. These learning outcomes contribute to the improvement of employability prospects of students.
588	Multimedia Communication	M16 CS 1210	This course enables students to conceptualize the aspects related to multimedia communications systems, application and basic principles and analysis of the multimedia streaming. These learning outcomes
601	Power System Dynamics and Stability	M16 PS 1201	This course makes students understand the concept of dynamics, stability, excitation and SMIB of power system. The learning outcomes of the course contribute to employability.
602	Automation in Power Systems	M16 PS 1202	This course makes students understand the principles of distribution automation . The learning outcomes of the course contributes to employability.
603	Intelligent Systems and Control	M16 PS 1203	This course makes students understand the Fuzzy and ANN architecture . The learning outcomes of the course contribute to employability.
604	Optimal Control Theory	M16 PS 1204	This course makes students understand optimal control techniques applied to electrical problems . The learning outcomes of the course contribute to employability.
605	Power System Simulation Lab-II	M16 PS 1208	This course enables students to practice usage of MATLAB to electrical problems like load flow problem, Improving voltage profile by using series compensation, load frequency control etc. The learning outcomes of the course contribute to skill development.



  
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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
606	High Voltage AC/DC Transmission #2- Elective-II	M16 PS 1205	This course makes students understand owith HVDC transmission. The learning outcomes of the course contribute to employability.
607	Power Quality #2- Elective-II	M16 PS 1206	This course makes students understand ooltage sag, swell, harmonics in power system . The learning outcomes of the course contribute to employability.
608	Power Electronic Applications in Power Systems #2-Elective-II	M16 PS 1207	This course makes students understand arious FACTS controller operation on FACTS systems . The learning outcomes of the course contributes to employability.
609	Thesis Work - Preliminary	M16 PS 2101	This course helps develop the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
610	Thesis Work- Final	M16 PS 2201	This course helps develop the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
611	Mathematical Foundations of Computer Science	M16 CST 1101	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
612	Data Structures & Algorithms	M16 CST 1102	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
613	Advanced Data Base Management Systems	M16 CST 1103	This course includes database analysis & design in addition of its fundamentals and SQL. It enables the students' competencies of dealng effectively with DBMS which will inturn contribute their employability skills.
614	Advanced Operating Systems	M16 CST 1104	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
615	Data Structures & Programming Lab	M16 CST 1113	This course enables students to acquire essentials skills in study of instruction set design, parallel processing,bit instruction and distributed computing which makes the students employable.
616	Database Management Systems Lab	M16 CST 1114	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
617	Computer Organization & Architecture #1- Elective-I	M16 IT 1101	This course focuses on basic concepts and structure of computers. Understand concepts of register transfer logic and arithmetic operations. . Explain different types of addressing modes and memory organization..The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
618	E-Commerce #1- Elective-I	M16 IT 1102	This course gives info To learn difference between a visitor and a customer. .The learning outcomes of this course contribute to employability prospects of students.
619	Embedded Systems #1- Elective-I	M16 IT 1103	This course will Develop software for evaluation, customer demonstration, and deployment using a software development process .The learning outcomes of this course contribute to employability prospects of students.
620	Image Processing #1- Elective-I	M16 IT 1104	This course enables technology for the generation, transformation, extraction and interpretation of information via electronic signals .The learning outcomes of this course contribute to employability prospects of students.
621	Artificial Intelligence #1-Elective-I	M16 IT 1105	Artificial intelligence programme helps professionals to master the concepts of data sources, knowledge acquisition and types of machine learning algorithms.The learning outcomes of this course contribute to employability prospects of students.
622	Compiler Design #1- Elective-I	M16 IT 1106	This course may be useful to analyze any system .The learning outcomes of this course contribute to employability prospects of students.
623	Computer Networks #2- Elective-II	M16 IT 1107	This course is considered as a fundamental course in understanding flow, propagation and type of data and the basic elements of networking .The learning outcomes of this course contribute to employability prospects of students.
624	Cloud Computing #2- Elective-II	M16 IT 1108	Cloud computing enables access to software applications, data storage, and other services over the Internet instead of through physical servers .The learning outcomes of this course contribute to employability prospects of students.
625	Grid Computing #2- Elective-II	M16 IT 1109	This course will study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities.The learning outcomes of this course contribute to employability prospects of students.
626	Computer Graphics & Visual Computing #2- Elective-II	M16 IT 1110	This course will study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities.The learning outcomes of this course contribute to employability prospects of students.
627	Parallel Programming #2-Elective-II	M16 IT 1111	Data parallelism is a way of performing parallel execution of an application on multiple processors..The learning outcomes of this course contribute to employability prospects of students.
628	Computer Vision #2- Elective-II	M16 IT 1112	Computer vision course enables computers and systems to derive meaningful information from digital images, videos and other visual inputs .The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
629	Web Systems & Technologies	M16 IT 1201	Web technologies course refers to the way computers/devices communicate. with each other using mark up languages .The learning outcomes of this course contribute to employability prospects of students.
630	Object Oriented Software Engineering	M16 CST 1202	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program helps the students in acquiring employability and entrepreneur ship skills.
631	Information Security & Cryptography	M16 IT 1202	This course gives info about processed contents can be termed as information and this course prevents the unauthorized access, use, disclosure, modification, inspection or destruction of information through strong firewall procedures .The learning outcomes of this course contribute to employability prospects of students.
632	Wireless & Mobile Networks	M16 IT 1203	A wireless network provides a fixed or portable endpoint to gain access to a distributed network.The learning outcomes of this course contribute to employability prospects of students.
633	Network Programming & Web Programming Lab	M16 IT 1216	Web programming and Network programming refers to the way computers/devices communicate with each other using mark up languages. The learning outcomes of this course contribute to skill development prospects of students.
634	OOSE Lab	M16 CST 1214	This course includes fundamentals of software development tools along with software analysis , design and development. After completing this course Students can easily adjusts to the working environment once they are employed.It is also useful to acquire Software Engineer jobs.
635	Mathematics Of Internet Systems & Control #1-Elective-III	M16 IT 1204	This course helps to develop solutions to practical problems .The learning outcomes of this course contribute to employability prospects of students.
636	IT Infrastructure Planning & Management #1- Elective-III	M16 IT 1205	Infrastructure planning involves the concept of a system approach to installation, operation and management..The learning outcomes of this course contribute to employability prospects of students.
637	Geo-Informatics #1- Elective-III	M16 IT 1206	Geoinformatics course gives knowlege on science and the technology which develops and uses information science infrastructure to address the problems of geography, cartography, geosciences and related branches of science and engineering..The learning outcomes of this course contribute to employability prospects of students.
638	Data Base Security #1- Elective-III	M16 IT 1207	This course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity .The learning outcomes of this course contribute to employability prospects of students.
639	Business Intelligence #1-Elective-III	M16 IT 1208	Business Intelligence (BI) refers to the procedural and technical infrastructure that collects, stores, and analyzes the data produced by a company's activities.The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
640	Big Data Analysis #1- Elective-III	M16 IT 1209	Big data analytics course gives info on often complex process of examining big data to uncover information .The learning outcomes of this course contribute to employability prospects of students.
641	Mobile Computing #2- Elective-IV	M16 IT 1210	Mobile Computing is human-computer interaction in which a computer is expected to be transported during normal usage, which allows for the transmission of data, voice, and video .The learning outcomes of this course contribute to employability prospects of students.
642	Soft Computing #2- Elective-IV	M16 IT 1211	Soft Computing give info about the collection of methodologies, which aim to exploit tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost..The learning outcomes of this course contribute to employability prospects of students.
643	Cluster Computing #2- Elective-IV	M16 IT 1212	Cluster Computing provides info about addresses the latest results in these fields that support High Performance Distributed Computing (HPDC) .The learning outcomes of this course contribute to employability prospects of students.
644	Pervasive Computing #2-Elective-IV	M16 IT 1213	Pervasive Computing gives info about Ubiquitous computing, and it is the new trend toward embedding everyday objects with microprocessors so that they can communicate information .The learning outcomes of this course contribute to employability prospects of students.
645	Semantic Web #2- Elective-IV	M16 IT 1214	Semantic Web gives information about about computers/devices communicate. with each other using mark up languages. .The learning outcomes of this course contribute to employability prospects of students.
646	Data warehousing & Data Mining #2- Elective-IV	M16 IT 1215	This course gives technology that aggregates structured data from one or more sources so that it can be compared and analyzed rather than transaction processing .The learning outcomes of this course contribute to employability prospects of students.
647	Thesis Work - Preliminary	M16 IT 2101	This course includes a Final Project in the M.Tech and is a test bed to refine their skills and also a launch pad to learn the required job skills and research orientation for their future research work
648	Thesis Work-Final	M16 IT 2201	This course includes a Final Project in the M.Tech and is a test bed to refine their skills and also a launch pad to learn the required job skills and research orientation for their future research work
649	Computer Graphics	M16 CAD 1101	The course concentrates on the Integration of computers and manufacturing tools to the realworld image procesing problems in the industry so as to achieve the highest productivity, which paves a way for employability for students.
650	Integrated Computer Aided Design	M16 CAD 1102	The course focuses on the Integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve the highest productivity, which helps students for employability.
651	Computer Numerical ComputerTechnology	M16 CAD 1103	The course chiefly throws light on the application of complex mathematical sollutions to solve realworld problems in indutry so as to achieve highest productivity, which helps students for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
652	Robotics	M16 CAD 1104	The course aims at Construction and simulation of robots and their application in different areas, which in turn improves employability skills in students.
653	CAD Lab	M16 CAD 1111	The course throws light on learning the use of advanced CAD packages to make engineering drawings and simulations become industry ready, which helps in skill development.
654	Advanced Optimization Techniques #1- Elective-I	M16 CAD 1105	The course deals with the application of complex mathematical solutions to solve real world problems in industry so as to achieve highest productivity, it thus finds its relevance to employability.
655	Neural Networks & Fuzzy Techniques #1- Elective-I	M16 CAD 1106	It concentrates on finding the parameters of a fuzzy system by exploiting approximation techniques from neural networks so as to simplify real world data and make machines to learn according to the problems. It, therefore, holds high relevance to employability.
656	Tool Design #1- Elective-I	M16 CAD 1107	It primarily deals with the Design of tools to develop complex shapes for the real world targeted applications in order to achieve the highest productivity and thus makes a way for the students to employability.
657	Design of Hydraulic & Pneumatics Systems #2- Elective-II	M16 CAD 1108	The course deals with the Design & development of Hydraulic & Pneumatics Systems for various engineering applications to achieve highest productivity, which relates to entrepreneurship.
658	Product Design #2- Elective-II	M16 CAD 1109	The course concentrates on blending user needs with business goals to help brands make consistently successful products, which helps in building entrepreneurship qualities.
659	Advanced Numerical Methods #2-Elective-II	M16 CAD 1110	The course focuses on the application of complex mathematical solutions to solve real world problems in industry in order to achieve highest productivity, which paves a way for employability.
660	Computer Integrated Manufacturing	M16 CAD 1201	The course aims at the integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve highest productivity, which helps for employability.
661	Mechatronics	M16 CAD 1202	The course concentrates on the application of electronics and mechanics to solve various engineering problems to become industry ready, which helps for employability.
662	Flexible Manufacturing Systems	M16 CAD 1203	The course concerns the Design of computerised production layouts to easily adapt to changes in the type and quantity of the product being manufactured, which helps in entrepreneurship.
663	Finite Element Analysis	M16 CAD 1204	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in industrial & engineering systems. It, thus, helps for employability.
664	CAM Lab	M16 CAD 1211	The course deals with the design and simulation of various manufacturing methods to solve real world industrial problems, which aims at skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
665	Vision Systems & Image Processing #3- Elective-III	M16 CAD 1205	The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities.
666	Intelligent Manufacturing Systems #3-Elective-III	M16 CAD 1206	The course concerns the integration of computer aided manufacturing tools to the realworld manufacturing methods in order to achieve highest productivity, which helps in employability.
667	Concurrent Engineering #3-Elective-III	M16 CAD 1207	The course throws light on designing and developing products, in which the different stages run simultaneously, rather than consecutively so as to achieve highest productivity in manufacturing processes, which in turn help for employability.
668	Signal Analysis & Condition Monitoring #4-Elective-IV	M16 CAD 1208	The course relates to the design of effective signal processing techniques which are prerequisites for tool condition monitoring in engineering applications so as to optimize the process parameters, which in turn help for employability.
669	Additive Manufacturing #4-Elective-IV	M16 CAD 1209	The course concerns the application of CAD softwares to design a product using different additive manufacturing methods in order for employability.
670	Metrology and Non Destructive Testing #4- Elective-IV	M16 CAD 1210	The course tries to familiarize various NDT techniques to understand the materials and machines without disturbing them from application area, which helps for employment.
671	Thesis Work- Preliminary	M16 CAD 2101	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
672	Thesis Work -Final	M16 CAD 2201	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
673	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
674	Mathematics – I *	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
675	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
676	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
677	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
678	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
679	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
680	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
681	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
682	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
683	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
684	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
685	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
686	Building Materials and Construction	B17 CE 1201	This course arms the Civil Engineer with knowledge of building materials and their specific applications in various building and infrastructure projects. It helps for employability.
687	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
688	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
689	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
690	Mathematics -IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
691	Mechanics of Solids	B17 CE 2101	The student gauges the limits of loading various shapes and materials used in Civil Engineering Structures. Knowledge of these concepts is essential to later design courses. It also helps for employability.
692	Environmental Engineering - I	B17 CE 2102	The course arms a public health engineer with knowledge of water sourcing, treatment, storage and supply for public works. The course prepares one for treatmet of water to Indian potable water standards. It also helps for employability.
693	Building Planning & Design	B17 CE 2103	The course covers the essentials of designing, drafting regular residential buildings and the process of getting approval for construction. It helps for entrepreneurship.
694	Surveying-I	B17 CE 2104	This course is basic numeracy for a Civil Engineer who is expected to map the reality (surveying) and transform the reality ( Design and Build) and again repeat this cycle time and again as societal needs keep evolving. It helps for employment.
695	Engineering Geology	B17 CE 2105	Construction Engineers (building materials), Geotechnical Engineers (soil identification), Water Resource Engineers (Ground Water), Transportation Engineers (route alignments) will use Geological knowledge in their everyday jobs. Remote Sensing tools and Geophysical Methods are used in site investigations for prosecting, minerals, rocks, ground water, geological formations (faults, fractures etc.,). It helps for employability.
696	Engineering Geology Lab	B17 CE 2106	The student develops the skill of material identification from Rocks and Minerals. The student is also able to visualise various geological features such as fold, faults using concepts of strike and dip. It develops skills in students.
697	Strength of Materials Laboratory	B17 CE 2107	This laboratory develops skills necessary for understanding failure of materials and quality of construction materials. These skills are essential for a structural design engineer. It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
698	AutoCAD for Civil Engineering	B17 CE 2108	Computer Aided Drafting is an essential skill of Civil Engineer and this course offers ample opportunity to hone this skill in the latest industry preferred software such as Autodesk AutoCAD. It develops skills in students.
699	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
700	Professional Ethics & Human Values	B17 BS 2108	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large. It helps for employability.
701	Structural Analysis -I	B17 CE 2201	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures. It also helps for employability.
702	Fluid Mechanics- I	B17 CE 2202	This course covers the mathematical concepts and frameworks used in designing hydrostatic and hydrodynamic systems used in Civil Engineering such as water retaining structures and conveying structures such as channels and pipes. It also helps for employability.
703	Environmental Engineering - II	B17 CE 2203	This course is essential for public health engineers handling sewerage and sewage treatment works. The course equips one with theoretical knowledge of the treatment units and their applications in specific stages of treatment plant. It helps for employability.
704	Concrete Technology	B17 CE 2204	This is an essential course for a Civil Engineer to work in Building Technology, specific to concrete and its application in contemporary industry. It also helps for employability.
705	Surveying - II	B17 CE 2205	The course prepares a Civil Engineer to handle surveying tasks as a site engineer using a variety of contemporary survey equipment including Total Station. It helps for employability.
706	Remote Sensing & GIS	B17 CE 2206	This course is essential for Civil Engineers involved in large scale project planning and site investigation whether for foundation design, water resource planning, waste disposal, route planning or overall urban heat island studies and impact on macro climate. The tools are also used in large scale projects like dams, reservoirs, war theatre planning etc., It develops skills in students.
707	Surveying Field Work	B17 CE 2207	This laboratory helps develop the practical skill of measuring land and development features such as roads, canals, buildings etc., and mapping the same to scale for use in planning and design of infrastructure. It develops skills in students.
708	Fluid Mechanics Lab- I	B17 CE 2208	Student becomes adept in measuring flow parameters in pipes and channels under various conditions. The student will also become acquainted with the performance of different shapes of weirs and notches that are employed as flow measuring devices in the field. It develops skills in students.



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709	Industry Oriented Technology Lab	B17 CE 2209	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc.,.It develops skills in students.
710	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
711	Structural Analysis -II	B17 CE 3101	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures.
712	Reinforced Concrete Structures -I	B17 CE 3102	This course prepares the structural engineer to design common building elements such as roof slabs, frames, footings and staircases as per concrete design code of India.
713	Steel Structures- I	B17 CE 3103	This course prepares the student with basic knowledge of steel connections, member types and design of trusses and frames used in structures and bridges.
714	Geotechnical Engineering -I	B17 CE 3104	Knowledge of behavior of soil under building loads and environmental variations such as ground water, earth quakes etc., is essential knowledge for design of foundations.
715	Fluid Mechanics -II	B17 CE 3105	The course arms the Hydraulic Engineer with knowledge of designing pipes and channels experiencing laminar and turbulent flows. The course also deals with knowledge of lift, drag and propulsion which are essential for studying effects on wind on structures.
716	Estimation & Quantity Surveying	B17 CE 3106	The course is essential for Engineers who want to become contractors or entrepreneurs in preparing bill of quantities and tender documents. The skill is also essential for becoming a certified valuer.
717	Environmental Engineering Lab	B17 CE 3107	The lab gives practise to a public health engineer in conducting routine water quality tests expected in a public water treatment plant.
718	Fluid Mechanics Lab II	B17 CE 3108	The student develops the skill of testing pump characteristics, drawing performance curves for vanes and turbines. The student also verifies various equations used for describing flow conditions.
719	Geographic Information Systems Laboratory	B17 CE 3109	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc.,.
720	Problem Solving & Linguistic Competence	B17BS 3101	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS etc.,.
721	Reinforced Concrete Structures-II	B17 CE 3201	The student practises design and drafting of structures (other than buildings) like Retaining Walls, Tanks, Bridges, Piles, Bunkers etc., as per the Indian Concrete Design Code.
722	Steel Structures-II	B17 CE 3202	The course builds on the basic course in steel structure design and provides experience in design of diverse steel structures as per the Indian steel design code.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
723	Geotechnical Engineering-II	B17 CE 3203	The second course on Geotechnical Engineering gives further design knowledge in different types of foundations and frameworks for analysis of stability of slopes. The course includes calculation of earth pressure based on various theories.
724	Transportation Engineering-I	B17 CE 3204	The course prepares the Civil Engineer for designing highway and airport systems with specifics about pavement material selection and design.
725	Air pollution and Control	B17 CE 3205	This course equips the Environmental Engineer with specific knowledge about measuring, monitoring air pollution and designing control strategies for air pollution.
726	Data Base Management Systems #OE	B17CS3213	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
727	Alternative Energy Sources #OE	B17CE3206	The course expands the knowledge of the Civil Engineer into newer energy technologies which are of decentralised nature. The future buildings will have to become self generating and this course introduces the Civil Engineer to the basics of tapping alternative energies in buildings.
728	Wastewater Management #OE	B17CE3207	This course is essential to the EHS engineer working in Industries to handle the effluent treatment works in Industries. The course also arms one with the knowledge of reporting effluent treatment performance to regulators.
729	Green Fuel Technologies #OE	B17CE3208	The course extends the Civil Engineers interest to resource recovery, predominantly from agro residues and plant material in generating bio fuels that could replace fossil fuels in the future.
730	Geotechnical Engineering Lab	B17 CE 3209	The student carries out the standard tests on soils which are essential for foundation design. These skills are essential for a Quality Control / Highway / Geotechnical engineer.
731	Concrete Technology Lab	B17 CE 3210	The students develop the skill of mixing building materials to prepare concrete and mortars of various grades to achieve desired strength characteristics. The skills are indispensable for Quality control engineers that work at project sites and Ready Mix Concrete Plants.
732	Employability Skills	B17BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
733	Basic Coding	B17BS 3202	This introductory course lays the foundation for programming and ability to use modern tools in ICT. Programming knowledge also inculcates system thinking and ability to reduce the problem to its fundamentals. It is a key skill required in modern work place of all engineering specialisations.
734	Transportation Engineering-II	B17 CE 4101	The course equips the transportation design engineer with the skills necessary for designing railways and airports, docks and harbours. It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
735	Water resources Engineering-I	B17 CE 4102	This course prepares a Civil Engineer for planning and design of irrigation systems to cater to needs of agriculture and other human activities. The course covers both surface water and ground water resource estimation and planning.
736	Project Planning & Management	B17 CE 4103	The course arms one with the knowledge of manage projects in infrastructure development. The knowledge is also useful to become an contractor and manage one's projects.
737	Finite Element Methods of Analysis #ELE-I	B17 CE 4104	The course equips the Civil Engineer with fundamentals of Finite Element Analysis which is used in various design and analysis software packages. It is a valuable skill for a design engineer of structures.
738	Solid Waste Management #ELE-I	B17 CE 4105	The course equips the Municipal Engineer with the conceptual framework and government rules for handling municipal solid waste and employing material and energy recovery strategies for the betterment of society.
739	Expansive Soils#ELE-I	B17 CE 4106	The course offers a specialised skill to Geotechnical engineer in preparing problematic soils for foundations. The course deals with the theoretical concepts and practical solutions for remediating expansive soils.
740	Traffic Engineering#ELE-I	B17 CE 4107	The course prepares the Transportation Engineer in collecting data and designing highways and various elements such as intersections and parking lots which form the basis for logistics infrastructure. It also helps for employability.
741	Prestressed Concrete Structures #ELE-II	B17 CE 4108	The course provides specialised knowledge in concrete structures design using pre-stressed technology. This type of design is increasingly used in large scale infrastcture projects for saving costs, time and increasing reliability and performance of the structures. It also helps for employability.
742	Ground Improvement Techniques #ELE-II	B17 CE 4109	The course is a specialisation for a Geotechnical Engineer to handle complex soil conditions that do not permit construction of buildings or hamper their durability. The course covers proven strategies for soil modification to improve its ability to support structures and their loads.
743	Transportation Planning #ELE-II	B17 CE 4110	The course is a specialisaton for Transporation Designer in preparing Detailed project reports for transportation systems. It helps for employability.
744	Urban Hydrology #ELE-II	B17 CE 4111	The course is a specialised design skill for water resources engineer tasked with handling storm water runoff. It is crucial to enhance ground water levels and prevent urban flooding which is increasing in highly urbanised areas.
745	Highway Materials Testing Lab	B17 CE 4112	The lab helps develop skills related to testing pavement materials used in transportation projects. The skills are essential for a quality control engineer.
746	Computer Applications in Civil Engineering Lab	B17 CE 4113	The Engineer gains experience in solving design and analysis problems using programming and specific tools such as spreadsheets and software packages. These skills are essential to become a designer or consultant.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
747	Water Resources Engineering-II	B17 CE 4201	This course equips with Water Resource Engineer with specific knowledge related to design of Hydraulic Structures.
748	Advanced Structural Analysis #ELE-III	B17 CE 4202	The advanced course prepares the structural designer to handle complex designs of multistoreyed RCC structures using matrix analysis method. It also helps for employability.
749	Environmental Impact Assessment #ELE-III	B17 CE 4203	The EIA is a specialised task of Environmental Engineer. The course arms one with the regulatory framework, its scope and the prescribed process for conducting an EIA. The course covers the process of applying for and getting environmental clearance for various projects.
750	Earth Retaining Structures #ELE-III	B17 CE 4204	The course is offers specialised knowledge to Geotechnical Engineer tasked with stabilising soils and hill sides in construction and road projects in challenging topographies. The Border Roads Organisation needs such specialised skills for their work.
751	Pavement Analysis and Design #ELE-III	B17 CE 4205	The course offers specialised skill in designing pavements with various materials under specific environmental and moving load conditions.
752	Irrigation Structures Design & Drawing	B17 CE 4206	The student develops specific skills related to drawing irrigation structures with design details. These are useful for Design and Drawing groups in PWD or water resource departments in governments.
753	Project work	B17 CE 4208	The advanced stage of project helps one refine skills in communication, field study, problem formulation and solution through design. It helps for employability and develops skills.
754	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
755	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
756	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
757	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
758	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
759	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
760	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
761	C Programming Lab & Hardware Fundamentals	B17 CS 1102	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
762	English – II*	B17 BS 1201	The course enhances ones interest in systemic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
763	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
764	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
765	Engineering Drawing	B17 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
766	Object Oriented Programming Through C++	B17 CS 1202	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
767	Elements of Electronics Engineering	B17 EC 1201	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
768	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
769	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content .with direct bearing on Employability/ Entrepreneurship/ Skill development
770	Object Oriented Programming Lab	B17 CS 1205	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
771	Data Structures	B17 CS 2101	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
772	Probability, Statistics and Queuing Theory	B17 BS 2102	This course enables the students to acquire essential skills needed for enhancing their skills in Fundamental knowledge of the probability concepts and Acquire skills in analysing queueing mode
773	Discrete Mathematical Structures	B17 BS 2103	This course helps the students understand different types of relations.
774	Computer Graphics	B17 CS 2102	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's geeting employment in revalent industries
775	Digital Logic Design	B17 CS 2103	This course enables the students to acquire knowledge and understanding of the design of digital eletronic devices with the knowledge of combinational logic circuits and sequential logic circuits which helps them become employable.
776	Data Analysis and Visualization using Python	B17 CS 2104	This course aims at enabling the students to learn various aspests of graphical design , photography etc . This exposure gain from the course contrubites to development of skills needed for more advanced applications.
777	Data Structures Lab.	B17 CS 2105	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
778	Data Analysis and Visualization using Python Lab	B17 CS 2106	This course aims at enabling the students to learn various aspests of graphical design , photography etc . This exposure gained from the course contrubites to the development of skills needed for more advanced applications that will lead to better employability opportunities.
779	Industry oriented Training : R Programming Lab	B17CS 2107	This course make sthe student to apply the concepts related to visualization and data cleaning, business analytics. this understanding plays a key role in students getting employment in relevant industries.
780	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability,adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
781	Computer Organization	B17 CS 2201	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU,Memory and I/O organizations, and these will help the students to improve their employability skills



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
782	Operating Systems	B17 CS 2202	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
783	Microprocessors	B17 CS 2203	This makes the students improve their skills as this course deals with introducing 8085 and 8086 microprocessor architecture and microcomputer systems, including memory and input/output interfacing. This knowledge contributes to student's getting employed in relevant companies.
784	Data Communications	B17 CS 2204	This course enables students learn the concepts related to the process of using computing and communication technologies to transfer data from one place to another, or between participating parties . This understanding plays a key role in student's employment in relevant industries
785	Advanced Data Structures	B17 CS 2205	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
786	Operations Research	B17 ME 2207	The course familiarizes the use of practice oriented mathematical applications for optimization functions in an organization, which in turn, helps students for entrepreneurship.
787	Operating Systems & Unix programming Lab	B17 CS 2206	This course enables students learn the concepts related to the areas of UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. This understanding plays a key role in student's employment in relevant industries.
788	Digital Electronics & Microprocessors Lab	B17 CS 2207	It makes them improve their skills in building basic blocks of digital electronics,logic gates,combination circuits and programming on 8085 assembly language used for skill development
789	Competitive Programming Lab	B17 CS 2208	This course enables students learn the concepts related to learn how to apply algorithms in order to solve complex problems and apply familiar algorithms to non-intuitive problems. This understanding plays a key role in student's employment in relevant industries and acquires skills in this area.
790	Professional Ethics & Human Values	B17 BS 2204	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
791	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habbit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
792	Computer Networks	B17 CS 3101	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
793	Web Technologies	B17 CS 3102	This course enables students apply the concepts related to HTML, java script, XML, AJAX and PHP. This understanding and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.
794	Formal Languages & Automata Theory	B17 CS 3103	This course aims at helping students to learn various applications of formal languages and role of formal languages in the development of compiler for particular language. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
795	Database Management Systems	B17 CS 3104	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
796	Application Development Using Java	B17 CS 3105	This course enables students to apply the concepts related Swings,Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of designing plays a key role in students' getting employment in relevant industries.
797	Database Management Systems Lab.	B17 CS 3108	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
798	Application Development Lab.	B17 CS 3109	This course enables students to apply the concepts related Swings,Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of designing plays a key role in students' getting employment in relevant industries.
799	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
800	Advanced Coding	B17 BS 3103	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
801	Embedded Systems #OE	B17CS3106	This course enables the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
802	Cyber Security #OE	B17CS3107	With the emergence of e-Commerce and various other websites, data security is the most critical issue in ensuring safe transmission of information through the internet. As the world is embracing more digital advancements, network security issues are becoming increasingly important. This course helps students to implement security protocols, this will play a key role in students getting employment in relevant industries.
803	Digital Signal Processing #OE	B17EC3109	This course enables students to understand the concepts related to the fundamental principles of Digital Signal Processing and analysing and designing tools required for signal processing systems. This understanding plays a key role in improving students' employability prospects.
804	Industrial Robotics #OE	B17ME3110	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
805	Data Warehousing & Data Mining	B17 CS 3201	This course enables students learn the concepts related to Data mining attempts to depict meaningful patterns through a dependency on the data that is compiled in the data warehouse. This understanding plays a key role in student's employment in relevant industries
806	Object Oriented Software Engineering	B17 CS 3202	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program helps the students in acquiring employability and entrepreneurship skills.
807	Design and Analysis of Algorithms	B17 CS 3203	This course aims at helping the students understand the different paradigms for problem solving and gives the knowledge for analysing the algorithms for solving different types of problems in Computer Science. This exposure gained from the course contributes to the development of skills needed for problem solving.
808	Artificial Intelligence	B17 CS 3204	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks.
809	Compiler Design	B17 CS 3205	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
810	Software Engineering Mini Project Lab	B17 CS 3210	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's getting employment in relevant industries
811	Network Programming Lab	B17 CS 3211	This course makes students learn the concepts related to working of computer networks in real time, and simulation of various topologies. This understanding plays a key role in student's getting employment in relevant industries.
812	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
813	Competitive Coding	B17 BS 3204	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skill development prospects of students.
814	Cloud Computing #Elective-I	B17CS3206	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet offer faster innovation, flexible resources, and economies of scale. This understanding plays a key role in student's getting employment in relevant industries
815	Mobile Computing # Elective-I	B17CS3207	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
816	Distributed Systems #Elective-I	B17CS3208	This course enables students learn the concepts related to computing environment in which various components are spread across multiple computers on a network. This understanding plays a key role in student's employment in relevant industries.
817	Information Retrieval Systems #Elective-I	B17CS3209	This course enables students learn the concepts related to information retrieval system that facilitate the relevance of displayed documents to searched queries by using algorithms. This understanding plays a key role in student's getting employment in relevant industries
818	Big Data Analytics	B17 CS 4101	This course deals with concepts like hadoop architecture, pig and hive which will help them gain better employability opportunities and build a better career
819	Internet of Things	B17 CS 4102	This course makes students learn the concepts related to Internet of Things in real time, and for automatizing of machines with gain knowledge with sensors and do physical activity with actuator with self-processing and incorporate with protocols. This understanding plays a key role in student's getting employment in relevant industries.
820	Machine Learning	B17 CS 4103	This course makes students to conceptualize the concepts related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in students getting employment in relevant industries.
821	Managerial Economics And Financial Accountancy	B17 BS 4101	This course enhances managerial economics means the application of economic theory to the problem of management. The learning outcomes of this course contribute to employability prospects of students.
822	Big Data Analytics Lab	B17 CS 4107	This course makes students to learn and apply MapReduce programming for Big Data in Hadoop, Pig and Hive Environments. This understanding plays a key role in students' getting employment in Big Data environment.
823	Internet of Things Lab	B17 CS 4108	This course enables students apply the concepts related to internet of things and to do simulations on various applications. This understanding contributes to students' getting employment in relevant industries and their entrepreneur skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
824	Cryptography and Network Security #ELE-II	B17 CS 4104	This course enables students to learn the concepts related to the areas of cryptography and cryptanalysis and develops a basic understanding of the algorithms used to protect users online. This understanding plays a key role in student's employment in relevant industries.
825	Software Project Management #ELE-II	B17 CS 4105	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneurship skills as almost every software includes database and software analysis & design. It is also useful to acquire Software Engineer jobs.
826	Scripting Languages #ELE-II	B17 CS 4106	This course is specially designed for newbies and going to cover. Python is a great flexible programming language that can be used in many situations.
827	Management and Organisational Behaviour	B17 BS 4201	Content with direct bearing on Employability
828	Deep Learning #ELE-III	B17 CS 4201	This course makes students to understand and apply different deep neural network models CNN, RNN, LSTM, AutoEncoders, ResNet, AlexNet in solving societal problems. This understanding plays a key role in students' getting employment in Machine Learning environment.
829	Concurrent and Parallel Programming #ELE-III	B17 CS 4202	The study of concurrent and parallel programming helps in creating multi threaded asynchronous and multi process programs which can make our programs run even faster. This helps in improving quality of programs developed by students which helps in employability in relevant industries.
830	Artificial Neural Networks #ELE-III	B17 CS 4203	This course deals with concepts automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks. these skills will play a key role in student's getting employment in relevant industries,
831	Machine Learning Lab	B17 CS 4204	This course makes students to learn and apply basic supervised and unsupervised machine learning algorithms, ensemble algorithms, deep neural network models CNN, RNN, LSTM, AutoEncoders, ResNet, AlexNet in Python environment for solving societal problems. This understanding plays a key role in students' getting employment in Machine Learning environment.
832	Project Work	B17 CS 4206	This course aims at increasing employability opportunities to the students by giving them enough exposure to define the problem, analysis, design and implementation. This course enables students to acquire essential skills needed for solving technical problems related to the society.
833	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
834	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
835	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
836	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
837	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
838	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
839	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
840	C Programming Lab	B17 CS 1103	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
841	English – II*	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
842	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
843	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
844	Engineering Drawing	B17 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
845	Data Structures	B17 CS 1203	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
846	Elements of Electrical Engineering	B17 EE 1203	This course makes students understand regarding electrical and magnetic circuits, construction and operation of DC machines, introduction to AC circuits, synchronous machines and Transformers . The learning outcomes of the course contribute to employability.
847	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
848	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
849	Engineering Workshop & IT Workshop	B17 BS 1209	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
850	Mathematics - IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
851	Electronic Devices and Circuits	B17 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
852	Switching Theory and Logic Design	B17 EC 2102	This course aims at helping students understand various aspects of number systems and minimization of Boolean functions. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
853	Signals and Systems	B17 EC 2103	This course aims at enabling students to learn various aspects of fundamental techniques associated with signals and systems. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
854	Network Analysis	B17 EE 2104	This course aims at helping students understand various aspects of theorems and techniques in electric circuit analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
855	Probability Theory and random Processes	B17 EC 2104	This course enables students to understand the concepts related to axiomatic formulation of modern probability theory. This understanding plays a key role in students' getting employment in relevant industries.
856	Electronic Devices and Circuits Lab	B17 EC 2107	The experiments carried out in this lab consolidate student's understanding of the steps involved in the operation of CROs, function generators and bread boards and electronics circuits. The knowledge gained in this lab is essential to students in getting employment in related industries.
857	Networks and Electrical Technology Lab	B17 EE 2106	This course focuses on employability of students by making them understand the concepts related to measuring of R,L and Capacitance values using bridge circuits..
858	Programming Skills-I	B17 BS 2106	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
859	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
860	Electronic Circuit Analysis	B17 EC 2201	This course makes students apply the concepts related to the classification of feedback amplifiers and analyze them. This understanding plays a key role in students' getting employment in relevant industries.
861	Control Systems	B17 EE 2203	This course makes students understand the concentrates on different control system, block diagram SFG representation and controllers and stability. The learning outcomes of the course contribute to employability.
862	Electromagnetic Field Theory and Transmission Lines	B17 EC 2202	This course aims at enabling students to learn various aspects of static electric field, steady magnetic field and time varying electromagnetic fields in real time applications. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
863	Analog Communications	B17 EC 2203	This course aims at helping students understand various fundamental concepts of communication system. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
864	Computer Architecture and Organization	B17 EC 2204	This course aims at enabling students to learn various fundamental blocks of a Basic Digital Computer. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
865	Management Science	B17 BS 2201	Content with direct bearing on Entrepreneurship
866	Electronic Circuit Analysis Lab With Simulation	B17 EC 2207	The experiments carried out in this lab consolidate students' understanding of the steps involved in Observing the amplitude and frequency responses of negative feedback amplifiers and RC coupled amplifiers. The knowledge gained in this lab is essential to students in getting employment in related industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
867	Analog Communication Lab	B17 EC 2208	The experiments carried out in this lab consolidate students' understanding of the steps involved in the various Analog communication modules. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
868	Programming Skills-II	B17 BS 2205	Skill development with direct bearing on Employability
869	Professional Ethics & Human Values	B17 BS 2204	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
870	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.
871	Pulse and Digital Circuits	B17 EC 3101	This course aims at helping the students to learn various aspects of Wave Shaping and Multivibrators. This understanding contributes to the development of skills needed for more advanced applications.
872	Linear ICs and Applications	B17 EC 3102	This course aims at enabling students to understand various aspects of characteristics of operational amplifier for liner and non liner applications. This understanding contributes to the development of skills needed for more advanced applications.
873	Electronic Measurements And Instrumentation	B17 EC 3103	This course aims at helping students to learn the requirements to understand and analyze different signal generators and analyzers. This understanding contributes to the development of skills needed for more advanced applications.
874	Digital Communication	B17 EC 3104	This course aims at enabling students to learn various aspects of digital communication systems and its applications. This understanding contributes to the development of skills needed for more advanced applications.
875	Antennas and Propagation	B17 EC 3105	This course aims at helping students to understand various aspects of radiation mechanism of antennas and its basic parameters like impedance, gain, directivity, bandwidth, effective length, beam width and radiation pattern etc. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
876	Computer Network Engineering	B17 EC 3106	This course enables students to apply the fundamental concepts of computer networking and network engineering reference models. This understanding helps them in improving their employability prospects in relevant industries.
877	Linear Integrated Circuits and Pulse Circuits Lab with Simulation	B17 EC 3107	The experiments carried out in this lab consolidate student's understanding of the steps involved in design, assembly and evaluation of Linear integrated circuits & Pulse Circuits. The knowledge gained in this lab is essential to students in getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
878	Digital ICs Laboratory with simulation	B17 EC 3108	This course makes students apply conceptualize the concepts related to digital electronics, Boolean algebra, and able to design the simple logic circuits and test/verify the functionality of the logic circuits. This understanding plays a key role in students' getting employment in relevant industries.
879	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
880	Basic Coding	B17 BS 3102	The course Basic Coding aims at helping students to learn various aspects of software programming skills. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
881	Microprocessors and its Applications	B17 EC 3201	This course makes students understand the concepts related to the architecture of 8085 Microprocessor and ALP programming. This understanding plays a key role in students' getting employment in relevant industries.
882	Microwave Engineering	B17 EC 3202	This course enables students to apply the concepts related to operational characteristics of active and passive components at microwave frequencies. This understanding plays a key role in students' getting employment in relevant industries.
883	VLSI Design	B17 EC 3203	This course enables students to apply the concepts related to mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnections and also understand the various fabrication steps of NMOS and CMOS. This understanding plays a key role in improving students' employability prospects.
884	Digital Signal Processing	B17 EC 3204	This course enables students to understand the concepts related to the fundamental principles of Digital Signal Processing and analysing and designing tools required for signal processing systems. This understanding plays a key role in improving students' employability prospects.
885	Radar Engineering	B17 EC 3205	This course enables students learn conceptualize the concepts related to mainly focus on To apply different methods to measurement the Range, angle information etc. of the target from the radar. This understanding plays a key role in students' getting employment in relevant industries.
886	Microcontrollers #OPEN ELECTIVE	B17EC3206	This course helps students understand the concepts related to the basic architectures of various processors and controllers. This understanding plays a key role in improving students' employability prospects.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
887	Oops through Java#OPEN ELECTIVE	B17CS3214	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
888	Data Mining #OPEN ELECTIVE	B17CS3215	Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
889	Industrial Robotics #OPEN ELECTIVE	B17ME3210	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
890	Power Electronics #OPEN ELECTIVE	B17EE3209	This course makes students understand the power semiconductor device and applications. The learning outcomes of the course contribute to employability.
891	Bio Medical Engineering #OPEN ELECTIVE	B17EC3207	This course makes students learn the concepts related to properties and suitable models of important biological signal such as ECG and EEG. These learning outcomes contribute to the improvement of employability prospects of students in relevant industries.
892	Artificial Neural Networks #OPEN ELECTIVE	B17CS3216	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks. These skills will play a key role in student's getting employment in relevant industries,
893	Microprocessors and Microcontrollers Lab	B17 EC 3208	The experiments carried out in this lab consolidate students' understanding of the steps involved in the the basics of Microprocessors 8086 and Microcontroller 8051. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
894	VLSI Lab	B17 EC 3209	The experiments carried out in this lab consolidate students' understanding of the steps involved in the RTL using Verilog HDL. The knowledge gained in this lab is essential to students in getting employment in industries related VLSI.
895	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
896	Advanced Coding	B17 BS 3203	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
897	Wireless Communications & Networks	B17 EC 4101	This course enables students to learn the concepts related to functioning of wireless communication system and evolution of different wireless communication systems and standards. This understanding plays a key role in students' getting employment in relevant industries.
898	Digital Image Processing	B17 EC 4102	The course Digital Image Processing contributes effectively to the employability skills of students by enabling them to learn the fundamental concepts of image, image processing and compression.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
899	Fiber Optic Communications	B17 EC 4103	This course enables students to understand concepts related to optical fibres and their types, properties and losses. This understanding is central to employability in various industries.
900	Embedded Systems & Internet Of Things	B17 EC 4104	This course enables students to learn the concepts related to basic concepts of embedded system architecture. This understanding plays a key role in students' getting employment in relevant industries. Communication protocols.
901	Digital Signal Processing Lab	B17 EC 4108	This course makes students apply the concepts related to Fast Fourier Transform in a variety of applications including: signal analysis, fast convolution, spectral and temporal interpolation, and filtering. Perform the deconvolution of two signals, LPC Speech coding, JPEG image compression, Image Encryption & Watermarking. These learning outcomes contribute to the improvement of employability prospects of students.
902	IOT Lab	B17 EC 4109	This course aims at helping students to learn various aspects of a IOT application prototypes with the knowledge of IOT. This exposure gained from the course contributes to the development of skills needed for more advanced learning / applications.
903	Information Theory and Coding #ELE-I	B17 EC 4105	This course helps students learn the concepts related to the basic concepts of information theory & applications of coding for information compression & channel protection. This understanding plays a key role in students' getting employment in relevant industries.
904	Satellite Communications & GPS #ELE-I	B17 EC 4106	This course helps students apply the concepts related to fundamentals of Kepler's planetary motion in satellite communication and GPS, the space segment of satellite communication systems and multiple access techniques, design link parameters of satellite uplink and downlink budget. This understanding plays a key role in students' getting employment in relevant industries.
905	Analog IC Design #ELE-I	B17 EC 4107	This course helps students apply the concepts related to fundamentals of MOS Devices and Small-Signal & Large-Signal Modeling of MOS Transistor and Analog Sub-Circuits Design and develop the Analog CMOS Circuits for different Analog operations. This understanding plays a key role in students' getting employment in relevant industries. Communication protocols.
906	Cellular and Mobile Communications	B17 EC 4201	This course helps students learn fundamentals of mobile communication systems and enables them to acquire essential skills to get employment in relevant industries.
907	Advanced Communication Lab	B17 EC 4205	This course makes students learn the concepts related to measurement of bit error rate, Hamming distance and coding techniques and calculation efficiency of spread spectrum techniques. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
908	Project	B17 EC 4207	This course makes students carry out activities that enable them to develop skills related to identifying a current problem by conducting literature/case/field studies.
909	AI & Machine Learning #ELE-II	B17 EC 4202	This course enables students learn conceptualize the concepts related to artificial intelligence & machine learning and their applications. This understanding plays a key role in students' getting employment in relevant industries
910	Network Security and Cryptography #ELE-II	B17 EC 4203	This course makes students learn the concepts related to cryptography, authentication and emerging security standards. This understanding plays a key role in students' getting employment in relevant industries.
911	Digital Signal Processors and Architectures #ELE-II	B17 EC 4204	This course makes students learn the concepts related to Implement application programs on a DSP processor. This understanding plays a key role in students' getting employment in relevant industries.
912	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
913	Mathematics – I *	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
914	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
915	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
916	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
917	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
918	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
919	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
920	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
921	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
922	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
923	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
924	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
925	Circuit Theory	B17 EE 1201	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
926	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
927	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
928	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
929	Mathematics - IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
930	Electronics Devices & Circuits	B17 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
931	Network Analysis and Synthesis	B17 EE 2101	This course makes students analyze DC transients, two port network. The learning outcomes of the course contribute to employability.
932	Electro Magnetic Field Theory	B17 EE 2102	This course focuses on the employability of students by making them learn basic concepts related to the effects of electrostatics and magnetostatics.
933	Electrical Measurements & Instruments	B17 EE 2103	This course focuses on employability of students by making them understand the concepts related Analog measurements, RL,C measurement using bridges, CRO.
934	Engineering Economics	B17 BS 2104	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
935	Networks & Measurements Lab	B17 EE 2105	This course enables students to practice measuring of R,L and Capacitance values using bridge circuits and verification of theorems. The learning outcomes of the course contribute to skill development.
936	Electronics Devices & Circuits Lab	B17 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
937	Programming Skills-I	B17 BS 2106	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
938	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
939	Professional Ethics & Human Values	B17BS 2108	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
940	Electrical Machines-I	B17EE 2201	This course makes students understand regarding construction and operation of DC machines and Transformers. The learning outcomes of the course contribute to employability.
941	Signals & Systems	B17EE 2202	This course makes students understand different signal and their analysis, fouries and Z-transform. The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
942	Electronic Circuit Analysis	B17EC 2205	This course makes students apply the concepts related to the classification of feedback amplifiers and analyze them. This understanding plays a key role in students' getting employment in relevant industries.
943	Prime movers & Pumps	B17ME 2206	This course enables students in learning the characteristics of fluids and working nature of hydraulic machines that help in developing employability of the students.
944	Linear Integrated and Pulse Circuits	B17EC 2206	This course focuses on employability of students by making them understand operational amplifiers and multivibrators.
945	Management Science	B17BS 2201	This course aims at helping students understand various fundamental aspects of Evolution of Management thought, functions & principles of management. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
946	Thermal Prime Movers Lab	B17ME 2210	This course relates to providing knowledge on functioning of various IC engines, viscosities, flash and fire points of oil samples that help in developing employability of the students.
947	Linear Integrated Circuits & Pulse Digital Circuits Lab with Simulation	B17EC 2209	This course enables students to practice linear and non linear wave shaping, multiplexers. The learning outcomes of the course contribute to skill development.
948	Programming Skills-II	B17BS 2205	Content with direct bearing on Skill development
949	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
950	Electrical Machines-II	B17 EE 3101	This course makes students understand induction machines and synchronous machines operation. The learning outcomes of the course contribute to employability.
951	Microprocessor & Microcontroller	B17 EE 3102	This course focuses on employability of students by making them understand 8085 microprocessor and microcontroller.
952	Electrical Power Generation, Transmission & Distribution	B17 EE 3103	This course focuses on employability of students by making them understand different power plants generation, performance of transmission lines and overhead line insulators.
953	Control Systems	B17 EE 3104	This course makes students understand the concentrates on different control system, block diagram SFG representation and controllers and stability. The learning outcomes of the course contribute to employability.
954	Digital Electronics & Logic Design	B17 EE 3105	This course focuses on employability of students by making them understand boolean algebra and different combinational and sequential logic circuits.
955	Non-Conventional Energy Sources	B17 EE 3106	This course focuses on employability of students by making them understand non conventional sources like solar, wind, ocean energy etc.
956	Electrical Machines Lab-I	B17 EE 3107	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer. The learning outcomes of the course contribute to skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
957	Microprocessor & Microcontroller Lab	B17 EE 3108	This course enables students to practice programming on 8-bit binary numbers, Working of 8085 processor and instruction set and microcontroller programming. The learning outcome of the course contribute to skill development.
958	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
959	Basic Coding	B17 BS 3102	The course Basic Coding aims at helping students to learn various aspects of software programming skills. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
960	Advanced Control Systems	B17 EE 3201	This course makes students understand the components, state space design, lead lag compensators. The learning outcomes of the course contribute to employability.
961	Power Electronics	B17 EE 3202	This course makes students understand the power semiconductor device and applications. The learning outcomes of the course contribute to employability.
962	Power System Analysis And Stability	B17 EE 3203	This course focuses on employability of students by making them understand design and analysis of electrical power grids.
963	Digital Signal Processing	B17 EE 3204	This course focuses on employability of students by making them understand discrete time signals, Z transform application, fast fourier transform.
964	Power System Protection	B17 EE 3205	This course makes students understand fuses, circuit breakers, relays. The learning outcomes of the course contribute to employability.
965	Electrical Machines –II Lab	B17 EE 3207	This course enables students to practice functioning of induction machines and synchronous machines. Regulation of alternator by ZPF method, $X_d$ and $X_q$ of synchronous machine. The learning outcomes of the course contribute to skill development.
966	Control Systems Lab	B17 EE 3208	This course enables students to practice first and second order system and characteristics of different controllers. DC and AC servomotor characteristics. The learning outcomes of the course contribute to skill development.
967	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
968	Advanced Coding	B17 BS 3203	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
969	Oops Through Java # OE	B17 CS 3214	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
970	Unix & Shell Programming # OE	B17 CS 3217	This course enables the students to acquire essential skills needed for enhancing their skills to read, write, and debug UNIX shell scripts
971	Neural Networks & Fuzzy Logic # OE	B17 CS 3218	This course deals with concepts automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks
972	VLSI Design # OE	B17 EC 3203	This course enables students to apply the concepts related to mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnections and also understand the various fabrication steps of NMOS and CMOS. This understanding plays a key role in improving students' employability prospects.
973	Industrial Robotics # OE	B17 ME 3210	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
974	Electric Drives	B17 EE 4101	This course focuses on employability of students by making them understand rectifier and chopper controlled fed DC drives, control of induction motors.
975	Power System Operation & Control	B17 EE 4102	This course focuses on employability of students by making them understand unit commitment and optimal power flow, Economical operation using thermal plants and combined hydro thermal plants.
976	Electric Vehicles	B17 EE 4103	This course focuses on employability of students by making them understand electrical vehical technology
977	Power Electronics Lab	B17 EE 4110	This course enables students to practiceworking of diode, rectifiers and inverters, operation of UJT, R and RC triggering .The learning outcomes of the course contribute to skill development.
978	Power System Simulation Lab	B17 EE 4111	This course enables students to practice use of MATLAB tool for electrical systems like load flow problem, transmission line parameters, Automatic generation control etc.The learning outcomes of the course contribute to skill development.
979	Operations Research #ELE-I	B17 EE 4104	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes of the course contribute to employability.
980	Flexible AC Transmission Systems #ELE-I	B17 EE 4105	This course makes students understand the different FACTS controller , SVC, TCSC and applications. The learning outcomes of the course contributes to employability.
981	Integration of Distributed Generation #ELE-I	B17 EE 4106	This course makes students understand the Study and design of substation and distribution. The learning outcomes of the course contribute to employability.
982	High Voltage Engineering #ELE-II	B17 EE 4107	This course focuses on employability of students by making them understand collision phenomenon, breakdown strength of insulators
983	Electric Power Quality #ELE-II	B17 EE 4108	This course makes students understand voltage sag, swell, harmonics in power system . The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
984	Energy Management & Auditing #ELE-II	B17 EE 4109	This course makes students understand the energy auditing, lighting and economic aspects and analysis. The learning outcomes of the course contribute to employability.
985	Electrical Machine Design	B17 EE 4201	This course focuses on employability of students by making them understand DC machines, transformers, induction machine design.
986	Power System Protection Lab	B17 EE 4205	operation of various protective relays, parameters of transmission line leads to skill and Employability
987	Project Work	B17 EE 4207	Skill development
988	Electrical Distribution Systems #ELE-III	B17 EE 4202	This course focuses on employability of students by making them understand design of substation and distribution feeder system
989	Utilization of Electrical Energy & Traction #ELE-III	B17 EE 4203	This course focuses on employability of students by making them understand traction and utilization of electrical energy
990	HVDC Transmission #ELE-III	B17 EE 4204	This course focuses on employability of students by making them understand HVDC transmission techniques, static power converters.
991	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
992	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
993	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
994	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
995	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
996	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
997	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
998	C Programming Lab & Hardware Fundamentals	B17 CS 1102	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
999	English – II*	B17 BS 1201	The course enhances ones interest in systemtic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1000	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis taks of Civil Engineers. It helps for employability skills.
1001	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1002	Engineering Drawing	B17 ME 1201	The course concentrates on the improvemnet of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1003	Object Oriented Programming Through C++	B17 CS 1202	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1004	Elements of Electronics Engineering	B17 EC 1201	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1005	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
1006	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1007	Object Oriented Programming Lab	B17 CS 1205	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1008	Data Structures	B17 IT 2101	This course teaches students how to use abstract language, work with algorithms, self-analyze their computational thinking, and accurately modeling real-world solutions. The learning outcomes of this course contribute to employability prospects of students.
1009	Java Programming	B17 IT 2102	The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities. The learning outcomes of this course contribute to employability prospects of students.
1010	Mathematical Foundations of Computer Science	B17 BS 2105	Students will understand how to use abstract language, work with algorithms, self-analyze their computational thinking, and accurately modeling real-world solutions
1011	Computer Graphics	B17 IT 2103	The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities.
1012	Data Communications	B17 IT 2104	Communication and Networking are interrelated terms in field of Engineering. This course is considered as a fundamental course in understanding flow, propagation and type of data and the basic elements of networking and communication. The learning outcomes of this course contribute to employability prospects of students.
1013	Digital Logic Design	B17 IT 2105	Digital logic is the manipulation of binary values through printed circuit board technology that uses circuits and logic gates to construct the implementation of computer operations. The learning outcomes of this course contribute to employability prospects of students.
1014	Data Structures Lab	B17 IT 2106	A data structure is a specialized format for organizing, processing, retrieving and storing data. The learning outcomes of this course contribute to skill development prospects of students.
1015	Java Programming Lab	B17 IT 2107	Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. The learning outcomes of this course contribute to employability prospects of students.
1016	Basic Coding	B17 IT 2108	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1017	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1018	Computer Organization	B17IT 2201	Computer Organization is concerned with the structure and behaviour of a computer system as seen by the user. It acts as the interface between hardware and software. The learning outcomes of this course contribute to employability prospects of students.
1019	Probability, Statistics & Queuing Theory	B17BS 2202	Use statistics and Queuing Theory to help develop solutions to practical problems. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1020	Microprocessors	B17IT 2202	This course provides knowledge on microprocessor, types of miniature electronic device that contains the arithmetic, logic, and control circuitry necessary to perform the functions. The learning outcomes of this course contribute to employability prospects of students.
1021	File Structures	B17IT 2203	A File structure is a specialized format for organizing, processing, retrieving and storing file. The learning outcomes of this course contribute to employability prospects of students.
1022	Unix & Shell Programming	B17IT 2204	This course deal operation and application of open source operating system, again this course is for those who want to build their carrier in software fields. The learning outcomes of this course contribute to employability prospects of students.
1023	Formal Language and Automata Theory	B17IT 2205	The finite automata or finite state machine is an abstract machine that has five elements or tuples. It has a set of states and rules for moving from one state to another but it depends upon the applied input symbol. The learning outcomes of this course contribute to employability prospects of students.
1024	Python Programming Lab	B17IT 2206	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skill development prospects of students.
1025	Digital Electronics And Micro Processors Lab	B17IT 2207	The microprocessor is a multipurpose, clock-driven, register-based, digital integrated circuit that accepts binary data as input, processes it according to instructions stored in its memory, and provides results (also in binary form) as output. The learning outcomes of this course contribute to employability prospects of students.
1026	Advanced Coding	B17IT 2208	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1027	Professional Ethics & Human Values	B17BS 2204	Human values convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
1028	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
1029	Computer Networks	B17 IT 3101	This course is considered as a fundamental subject in understanding flow, propagation and type of data and the basic elements of networking. The learning outcomes of this course contribute to employability prospects of students.
1030	E-Commerce	B17 IT 3102	This course give information to learn difference between a visitor and a customer. The learning outcomes of this course contribute to employability prospects of students.
1031	Compiler Design	B17 IT 3103	This course develops the concept of optimization in individual to achieve designed goals in engineering. Employability in this field requires core knowledge in this field. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1032	Operating Systems	B17 IT 3104	This course focuses on structuring, Synchronization, communication and scheduling in parallel systems..The learning outcomes of this course contribute to employability prospects of students.
1033	Database Management Systems	B17 IT 3105	This course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity..The learning outcomes of this course contribute to employability prospects of students.
1034	Design and Analysis of Algorithms	B17 IT 3106	This course helps to design and analyze the logic on how the program will work before developing the actual code for a program..The learning outcomes of this course contribute to employability prospects of students.
1035	Database Management Systems Lab	B17 IT 3107	This course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity..The learning outcomes of this course contribute to skill development prospects of student
1036	Unix and Operating Systems Lab	B17 IT 3108	This subject will deal with operation and application of open source operating system, again this subject is for those who want to build their carrier in software fields..The learning outcomes of this course contribute to skilldevelopment prospects of students.
1037	Problem Solving & Linguistic Competence	B17BS 3101	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et.,
1038	Competitive Coding-I	B17BS 3104	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to entrepreneurship prospects of students.
1039	Web Technologies	B17 IT 3201	This courses refers to the way computers/devices communicate. with each other using mark up languages..The learning outcomes of this course contribute to employability prospects of students.
1040	Object Oriented Software Engineering	B17 IT 3202	This course helps in understanding the concept of modular as well as procedural programming in grass root level. The concept of basic features and applications of object-based programming is also added in this subject. .The learning outcomes of this course contribute to employability prospects of students.
1041	Cryptography & Network Security	B17 IT 3203	This course focuses on processed contents can be termed as information and this subject prevents the unauthorized access, use, disclosure, modification, inspection or destruction of information through strong firewall procedures..The learning outcomes of this course contribute to employability prospects of students.
1042	Statistics With R Programming	B17 IT 3204	This course focuses on data analysis including basic data visualization, statistical testing and inference, and linear modeling..The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1043	Data Ware Housing and Business Intelligence	B17 IT 3205	This course focuses on technology that aggregates structured data from one or more sources so that it can be compared and analyzed rather than transaction processing..The learning outcomes of this course contribute to employability prospects of students.
1044	Web Technologies Lab	B17 IT 3210	This course refers to the way computers/devices communicate. with each other using mark up languages..The learning outcomes of this course contribute to skill development prospects of students.
1045	Software Engineering and Mini Project Lab	B17 IT 3211	This course is dedicated to the planning, scheduling, resource allocation, execution, tracking, and delivery of software and web projects..The learning outcomes of this course contribute to skill development prospects of students.
1046	Employability Skills	B17BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1047	Competitive Coding-II	B17 BS 3205	It improves skills and prepare student to work on project as software industry..The learning outcomes of this course contribute to entrepreneurship prospects of students.
1048	Artificial Intelligence #OE	B17 IT 3206	This course helps professionals to master the concepts of data sources, knowledge acquisition and types of machine learning algorithms.The learning outcomes of this course contribute to entrepreneurship prospects of students.
1049	Semantic Web and Social Networks #OE	B17 IT 3207	This course focuses on the decision-making process and improves limited resources allocation capability of an individual.The learning outcomes of this course contribute to employability prospects of students.
1050	Digital Signal Processing #OE	B17 EC 3210	This courses focuses on digital processing, such as by computers or more specialized digital signal processors, to perform a wide variety of signal processing operations..The learning outcomes of this course contribute to employability prospects of students.
1051	Robotics #OE	B17 ME 3211	This course involves the conception, design, manufacture and operation of robots..The learning outcomes of this course contribute to employability prospects of students.
1052	Image Processing #OE	B17 IT 3208	This course enhances the technology, generation, transformation, extraction and interpretation of information via electronic signals.The learning outcomes of this course contribute to employability prospects of students.
1053	Operations Research #OE	B17 IT 3209	This course focuses on a method of mathematically based analysis for providing a quantitative basis for management decisions..The learning outcomes of this course contribute to employability prospects of students.
1054	Distributed Systems	B17 IT 4101	This course deals with distributed system contains multiple nodes that are physically separate but linked together using the network.The learning outcomes of this course contribute to employability prospects of students.
1055	Mobile Computing	B17 IT 4102	This course enhances human-computer interaction in which a computer is expected to be transported during normal usage, which allows for the transmission of data, voice, and video.The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1056	Managerial Economics and Financial Accountancy	B17 BS 4101	This course enhances managerial economics means the application of economic theory to the problem of management. The learning outcomes of this course contribute to employability prospects of students.
1057	Mobile Computing Lab	B17 IT 4111	This course deals with human-computer interaction in which a computer is expected to be transported during normal usage, which allows for the transmission of data, voice, and video. The learning outcomes of this course contribute to employability prospects of students.
1058	Cryptography and Network Security Lab	B17 IT 4112	This course is the study of secure communications techniques that allow only the sender and intended recipient of a message to view its contents. The learning outcomes of this course contribute to skill development prospects of students.
1059	Bigdata Analytics #ELE-I	B17 IT 4103	This course is the often complex process of examining big data to uncover information such as hidden patterns, correlations, market trends and customer preferences that can help organizations make informed business decisions. The learning outcomes of this course contribute to employability prospects of students.
1060	Information Retrieval System #ELE-I	B17 IT 4104	This course deals with information retrieval (IR) system is a set of algorithms that facilitate the relevance of displayed documents to searched queries. The learning outcomes of this course contribute to employability prospects of students.
1061	Internet of Things #ELE-I	B17 IT 4105	This course deals with network of physical objects—"things"—that are embedded with sensors, software, and other technologies. The learning outcomes of this course contribute to employability prospects of students.
1062	Multimedia Programming #ELE-I	B17 IT 4106	This course deals with specialist software engineers and have the knowledge to choose the right programming language, such as HTML, Flash, PHP, etc. The learning outcomes of this course contribute to employability prospects of students.
1063	Embedded Systems #ELE-II	B17 IT 4107	This course enhances microprocessor-based computer hardware system with software that is designed to perform a dedicated function. The learning outcomes of this course contribute to employability prospects of students.
1064	Software Project Management #ELE-II	B17 IT 4108	This course enhances dedicated to the planning, scheduling, resource allocation, execution, tracking, and delivery of software and web projects. The learning outcomes of this course contribute to employability prospects of students.
1065	Machine Learning #ELE-II	B17 IT 4109	This course enhances a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. The learning outcomes of this course contribute to employability prospects of students.
1066	Decision Support Systems #ELE-II	B17 IT 4110	This course deals a computerized program used to support determinations, judgments, and courses of action in an organization or a business. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1067	Management and Organisational Behaviour	B17 BS 4201	Content with direct bearing on Employability
1068	Data Mining Lab	B17 IT 4205	This course deals with finding anomalies, patterns and correlations within large data sets to predict outcomes. Using a broad range of techniques, you can use this information to increase revenues, cut costs, improve customer relationships, reduce risks and more..The learning outcomes of this course contribute to skill development prospects of students.
1069	Project work	B17 IT 4207	This course improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skill development prospects of students.
1070	Cloud Computing #ELE-III	B17 IT 4201	This course enables access to software applications, data storage, and other services over the Internet instead of through physical servers.The learning outcomes of this course contribute to employability prospects of students.
1071	Cyber Security #ELE-III	B17 IT 4202	The course deals information and this subject prevents the unauthorized access, use, disclosure, modification, inspection or destruction of information through strong firewall proceduresThe learning outcomes of this course contribute to employability prospects of students.
1072	Artificial Neural Networks #ELE-III	B17 IT 4203	This course deals a computational model that consists of several processing elements that receive inputs and deliver outputs based on their predefined activation functions.The learning outcomes of this course contribute to employability prospects of students.
1073	Software Quality Assurance #ELE-III	B17 IT 4204	This course deals monitors every phase of the development process to ensure that the design and software adhere to company standards.The learning outcomes of this course contribute to employability prospects of students.
1074	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability,adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1075	Mathematics – I *	B17 BS 1102	The course M-1 enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1076	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1077	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1078	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
1079	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1080	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
1081	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1082	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1083	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
1084	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
1085	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
1086	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1087	Basic Electrical and Electronics Engineering	B17 EE 1202	This course aims at helping students understand various aspects of theorems and techniques in electrical and electronics concepts. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1088	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
1089	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1090	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1091	Mathematics-IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
1092	Strength of Materials	B17 ME 2101	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
1093	Thermodynamics	B17 ME 2102	This course deals with law of thermodynamics, thermal systems and thermodynamics relations that help in developing employability of the students.
1094	Manufacturing Process	B17 ME 2103	This course focuses on various methods of converting raw materials to finished products that help in developing employability of the students.
1095	Metallurgy & Materials Science	B17 ME 2104	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1096	Advanced Engineering Drawing	B17 ME 2105	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1097	Mechanical Engineering Lab	B17 ME 2106	This course concentrates on the characteristics of working with IC engine of various engineering applications which helps in developing skills of the students.
1098	Basic Electrical & Electronics Engineering Lab	B17 EE 2107	This course enables students to practice functioning of DC machines and load test on DC machines and KCL and KVL laws verification. The learning outcomes of the course contribute to skill development.
1099	Auto CAD	B17 ME 2107	This course enables students to master the usage of CAD packages to make engineering drawings which help in developing employability of the students.
1100	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1101	Professional Ethics & Human Values	B17 BS 2108	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large. It helps for employability.
1102	Advanced Strength of Materials	B17 ME 2201	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
1103	Thermal Engineering	B17 ME 2202	This course focuses on orienting the applications of different types of power plants, boilers, condenser, steam nozzles and steam turbines that help in developing employability of the students.
1104	Metal Cutting & Machine Tools	B17 ME 2203	This course enables students in gaining knowledge on conventional Machining which helps in developing employability of the students.
1105	Fluid Mechanics	B17 ME 2204	This course enables students in learning the characteristics of fluids which helps in augmenting employability of the students.
1106	Mechanical Engineering Drawing	B17 ME 2205	learning the various fastenings (temporary, permanent.), Bearings, couplings, key, along with conventional representation
1107	Engineering Economics	B17 BS 2203	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
1108	Manufacturing Process Lab	B17 ME 2208	This course enables students in gaining knowledge on conventional & unconventional Machining and Properties of moulding sand that help in developing employability of the students.
1109	Strength of Materials Lab	B17 CE 2210	This course aims at applying engineering properties of materials and stress-strain relationship that help in developing employability of the students.
1110	Industry Oriented Technology Lab	B17 ME 2209	This course enables students in learning the basic CATIA skills of data and transform it into graphic drawings that help augment skills of the students.
1111	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.
1112	Operations Research	B17 ME 3101	The course familiarizes the use of practice oriented mathematical applications for optimization functions in an organization, which in turn, helps students for entrepreneurship.
1113	IC Engines & Gas Turbines	B17 ME 3102	The course imparts the knowledge of combustion in IC engines, compressors and gas turbines in engineering applications, which paves a way for employability.
1114	Kinematics of Machines	B17 ME 3103	The course concentrates on the study of the relative motion, velocity, and accelerations of the various elements in a mechanism, cam, gears & gear trains, which helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1115	Design of Machine Elements	B17 ME 3104	The course formulates and analyzes stresses and strains in machine elements like shafts, springs etc and structures under static and/or dynamic load conditions, which helps for employment skills.
1116	Fluid Machines & Systems	B17 ME 3105	The course deals with the acquired knowledge in the field of Mechanics of Fluids & systems and related areas, which is conducive to employability.
1117	Industrial Measurements & Metrology	B17 ME 3106	The course exposes the various mechanical and electrical engineering measuring devices, and different degree of accuracy obtained from different types of instruments, which leads to employability.
1118	IC Engines & Kinematics of Machines Lab	B17 ME 3107	The course relates to practical approach to I.C Engines, four bar chain mechanisms and finding friction power in single and multi cylinder engines, which helps students for employability.
1119	Metrology Lab	B17 ME 3108	The course concentrates on calibrate linear and angular measurement, Handle vibration, displacement, force and torque measuring tools etc., which paves a way for employability.
1120	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
1121	Modeling Lab	B17 ME 3109	The course aims at gaining knowledge on 2D – drawings, 3D solids and modelling skills conducive for employability.
1122	Industrial Engineering & Management	B17 ME 3201	The course focuses on acquiring full knowledge on production planning and control, material handling principles and maintenance practices, which are conducive for employability.
1123	Control Systems	B17 ME 3202	The course tries to familiarize on the basic concepts of feedback characteristics, develop mathematical models and stability of control systems, which pave a way for employability.
1124	Dynamics of Machines	B17 ME 3203	The course aims at developing the knowledge on dynamic balancing, flywheel analysis, vibrations, gyroscopic forces and moments, which help students for employability.
1125	Machine Design	B17 ME 3204	The course analyzes stresses and strains in machine elements like gears, i.c engine components, clutches, bearings, etc. under static and dynamic load conditions, which is conducive for employability.
1126	Computer Aided Design	B17 ME 3207	The course aims at learning of Computer Graphics, Solid Modeling and also in CAD software, which is helpful for employability.
1127	Industrial Engineering Lab	B17 ME 3208	The course concentrates on learning the different methods of finding the standard time for a job and process charts used for improving the method of doing the work, which is useful for employability.
1128	Fluid Mechanics and Machinery Lab	B17 ME 3209	The course focuses on demonstrating the working principles and fundamentals of Fluid mechanics, turbines and pumps, which is conducive for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1129	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1130	Basic Coding	B17 BS 3202	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1131	Entrepreneurship #OE	B17 BS 3207	The objective of this course is to regional growth, industrial development and employment generation depends upon entrepreneurial development.
1132	Database Management System #OE	B17 CS 3213	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1133	Waste Water Management #OE	B17 CE 3207	This course is essential to the EHS engineer working in Industries to handle the effluent treatment works in Industries. The course also arms one with the knowledge of reporting effluent treatment performance to regulators.
1134	Computer Graphics #OE	B17 CS 3210	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's geeting employment in revalent industries
1135	Industrial Robotics #OE	B17 ME 3205	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
1136	Green Engineering Systems #OE	B17 ME 3206	The course aims at gaining the knowledge on working principles of probable sources of renewable and green energy systems.
1137	Heat Transfer	B17 ME 4101	The course familiarizes the heat transfer rate in conduction, convection and radiation and their industrial applications helping for employability.
1138	Computer Aided Manufacturing	B17 ME 4102	The course concentrates on learning CNC Retrofitting, Group Technology, NC techniques and FMS systems, which enhances employability for students.
1139	Mechatronics	B17 ME 4103	The course aims at acquiring knowledge of sensors ,actuators and practical applications of mechatronic systems, which pave a way for employability.
1140	Heat Transfer Lab	B17 ME 4110	The course focuses on the demonstration of heat exchanger , conduction, convection and radiation of heat through metals and insulation powder, which in turn, help the students for employability.
1141	CAD Lab	B17 ME 4111	The course focuses on the acquiring knowledge on the use of CAD packages to make engineering drawings through helping for employability.
1142	Finite Element Analysis #ELE-I	B17 ME 4104	This course concentrates on performing finite element analysis on 1D and 2D structural Trusses and Beams and Axisymmetric solid that help in developing skills of the students.
1143	Automation in Manufacturing #ELE-I	B17 ME 4105	This course enables students in acquiring the knowledge on the principles of advanced manufacturing process and various automation strategies used in production systems that help in developing employability of the students



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1144	Quality Control and Assurance #ELE-I	B17 ME 4106	The course deals with the basic principles of quality management and designing different sampling plans for the purpose of inspection, which helps for employability.
1145	Project Management #ELE-II	B17 ME 4107	The course helps in acquiring all the key skills to become effective project managers across various industries, which develops entrepreneurship skills.
1146	Tool Design #ELE-II	B17 ME 4108	This course deals with locating and clamping principles, functions and design principles of Jigs and fixtures that help in developing both employability and entrepreneurship of the students.
1147	Refrigeration & Air Conditioning #ELE-II	B17 ME 4109	This course enables students to construct the fundamentals of air conditioning & refrigeration cycle and C.O.P that help augmenting the employability skills of the students.
1148	Production Planning & Control	B17 ME 4201	This course focuses on the steps of production control, types of control and control organization and its significance that help in developing the entrepreneurship of the students.
1149	CAM Lab	B17 ME 4205	This course focuses on acquiring knowledge on various commands in CAD software for modelling 2D & 3D objects and structural components which develops skill in the student community.
1150	Project Work	B17 ME 4207	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
1151	Power Plant Engineering # ELE- III	B17 ME 4202	The course concentrates on applications of different types of power plants, boilers, condenser and reactor, which help students for employability.
1152	Automobile Engineering and Hybrid Vehicles # ELE- III	B17 ME 4203	This course enables students in Constructing vehicle chassis, frame, body and engine components that help in developing employability prospects of the students.
1153	Additive Manufacturing # ELE- III	B17 ME 4204	The course deals with the application of CAD softwares to design a product using different additive manufacturing methods for employability and entrepreneurship skills
1154	Advanced Mathematics	M17 ST 1101	Advanced Mathematics forms the basis for a candidate interested to pursue research in structural engineering. Problems which are not amenable to modelling in commercial software and existing codes have to mathematically modelling ground-up and solved through numerical methods or analytical equations. It helps for employability.
1155	Theory of Elasticity	M17 ST 1102	The course is advanced to strength of materials and it gives a deep insight into the elastic behaviour in materials and three dimensional analysis which is very much useful in analysing the complex structures. It also helps for employability.
1156	Matrix methods of Structural Analysis	M17 ST 1103	The course mainly focuses on the matrix methods in analysing the indeterminate structures which are basis for developing the structural analysis softwares. It also helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1157	Structural Dynamics	M17 ST 1104	The course majorly focus on the dynamic analysis of structure and mode shapes which are mainly useful in the analysis of structures designed as Earthquake Resistant. It also helps for employability.
1158	Advanced Structural Engineering Laboratory	M17 ST 1111	The laboratory course helps develop skills essential to a quality control engineer in project execution. It develops skills in students.
1159	Sub-Structure Design #ELE-1	M17 ST 1105	This course discusses about the soil related issues like bearing capacity, shear strength, settlement criteria of different type of soils which is very useful in designing different type of foundations to real life structures. It also helps for employability.
1160	Experimental Stress Analysis #ELE-1	M17 ST 1106	The structural engineer who intends to build novel forms with new material need to test scaled down models and capture data under different loading conditions and environmental stress. The methods taught in this course help a structural engineer in choosing the right set of data capturing systems and building model materials in conducting physical modeling tests. It helps for employability.
1161	Advanced Reinforced concrete Design #ELE-1	M17 ST 1107	This is an advanced course to the reinforced concrete design which is one of important course in civil Engineering. The load considerations and designs criterion of typical structures like grid slabs, flat slabs, fire resistant detailing etc were discussed in the course which are useful in designing the real time structures. It helps for employability.
1162	Plastic Analysis and Design #ELE-2	M17 ST 1108	The Plastic Analysis is a classic approach to steel design that was in vogue during the skyscraper craze. The course helps the structural engineer to design complex steel structures. It helps for employability.
1163	Analysis and Design of Tall Buildings #ELE-2	M17 ST 1109	This course mainly focuses on the analysis and design of tall structures like bunkers, silos, chimneys, etc. The concepts involved in the course like load considerations, shear wall behaviour, multy storey frames and later load analysis are very much useful in analysis and design of tall structures. It helps for employability.
1164	Repair and Rehabilitation of Structures #ELE-2	M17 ST 1110	This course helps the students in developing the knowledge to access the damage intensity in the structures and to provide suitable repair and rehabilitation techniques. It also helps for employability.
1165	Theory of Plates and Shells	M17ST 1201	The structural engineer increasingly needs to realise the whims of deconstructivist architects whose forms and elements do not have references in design codes. The theoretical underpinnings of plates and shells arms him with the knowledge to handle such design challenges in his career. It also helps for employability.
1166	Finite Element Methods of Analysis	M17ST 1202	The course equips the structural engineer with finite element approaches in analysing complex geometries of structures under complex loading conditions. It also helps for employability.
1167	Earthquake Resistant Design of Structures	M17ST 1203	This course develops the knowledge on engineering seismology and seismic codal provisions which helps in designing the earthquake resistant structures. It also helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1168	Structural Stability	M17ST 1204	The structural engineer needs to ascertain the behaviour of his designed buildings under different loading conditions during its service life, including wind, wave and seismic loads. This course equips with knowledge to assess the stability of structures under possible extreme conditions. It also helps for employability.
1169	Computer applications in structural Engineering Lab	M17 ST 1211	The Engineer gains experience in solving design and analysis problems using programming and specific tools such as spreadsheets and software packages. These skills are essential to become a designer or consultant. It develops skills in students.
1170	Reliability Analysis and Design #ELE-3	M17 ST 1205	The course helps use statistical tools in gauging the performance of individual building elements under loads and the ensemble of a variety of elements. It also helps for employability.
1171	Prestressed Concrete #ELE-3	M17 ST 1206	The course provides specialised knowledge in concrete structures design using pre-stressed technology. This type of design is increasingly used in large scale infrastructure projects for saving costs, time and increasing reliability and performance of the structures. It also helps for employability.
1172	Optimization Techniques #ELE-3	M17 ST 1207	This course discusses about the usage of various optimization techniques like linear and non linear programming, quadratic programming in solving various constructional and design problems. It also helps for employability.
1173	Industrial Structures #ELE-4	M17 ST 1208	This course mainly imparts knowledge on requirements of industrial structures, materials used and construction techniques which will be helpful in analysis and design of industrial steel structures and communication towers etc. It also helps for employability.
1174	Bridge Engineering #ELE-4	M17 ST 1209	This course focuses on the design of different types of bridges and also creates awareness on the bridge bearings and their uses that are used in real life bridges. It also helps for employability.
1175	Earth Retaining Structures #ELE-4	M17 ST 1210	The course offers specialised knowledge to Structural Engineer tasked with stabilising soils and hill sides in construction and road projects in challenging topographies. The Border Roads Organisation needs such specialised skills for their work. It also helps for employability.
1176	Project Work Part-I	M17 ST 2103	The preliminary thesis work gives an opportunity at identifying the problem, formulation of analysis and design. The preliminary work also gives an opportunity to identify the existing solutions through systematic literature review and design reviews.
1177	Project Work Part-II	M17 ST 2202	The final thesis work offers an opportunity to test one's mastery of design, analysis, communication, team work and other skills that are expected at the workplace.
1178	Advanced Data structures and Algorithm Analysis	M17 CST 1101	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhance their skills in development of software and this ability of design plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1179	Mathematical Foundations of Computer Science	M17 CST 1102	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
1180	Computer Organization and Architecture	M17 CST 1103	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU,Memory and I/O organizations, and these will help the students to improve their skills
1181	Database Management Systems	M17 CST 1104	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1182	Advanced Operating Systems	M17 CST 1105	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
1183	Data Warehousing and Data Mining	M17 CST 1106	This course makes students learn the data warehousing concepts related to schemas, attributes for storing and handling different data formats. Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
1184	CST LAB-1	M17 CST 1107	This helps the students to understand the design aspects of operating system and linear and non-linear data structures.
1185	Cyber Security	M17CST 1201	With the emergence of e-Commerce and various other websites, data security is the most critical issue in ensuring safe transmission of information through the internet. As the world is embracing more digital advancements, network security issues are becoming increasingly important. This course helps students to implement security protocols, this will play a key role in students getting employment in relevant industries.
1186	Computer Networks	M17CST 1202	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
1187	Big Data Analytics	M17CST 1203	This course deals with concepts like hadoop architecture,pig and hive which will help them gain better employability opportunities and build a better career
1188	Machine Learning	M17CST 1204	This course makes students to conceptualize the concepts related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in student's getting employment in relevant industries.
1189	CST LAB 3	M17CST 1213	This helps the students to get knowledge about SDLC and develop the skills for building a software project.
1190	CST LAB 4	*M17CST 1214	This helps the students to apply principles of network and computer security.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1191	Software Engineering # ELE-1	M17CST 1205	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneur ship skills as almost every software includes database and software analysis & design . It is also useful to acquire Software Engineer jobs.
1192	Artificial Intelligence # ELE-1	M17CST 1206	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks. these skills will play a key role in student's getting employment in relevant industries.
1193	Compiler Design # ELE-1	M17CST 1207	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the employability of students in relevant industries.
1194	Embedded Systems # ELE-1	M17CST 1208	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
1195	Image Processing # ELE-II	M17CST 1209	This course helps the students learn the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
1196	Parallel Algorithms # ELE-II	M17CST 1210	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the excution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
1197	Cloud Computing # ELE-II	M17CST 1211	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence. This understanding plays a key role in student's getting employment in relevant industries
1198	Mobile Computing # ELE-II	M17CST 1212	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
1199	Project Work Part-I	M17 CST 2103	This course includes a Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work
1200	Project Work Part-II	M17 CST 2202	This course includes a Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work
1201	Detection & Estimation Theory	M17 CS 1101	This course aims at enabling students to learn various aspects of Signal Detection, Estimation, different Hypotheses in detection and estimation problems. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1202	Digital Data Communications	M17 CS 1102	This course makes students learn the concepts related to Different modulation techniques to improve the bandwidth and their properties. This understanding plays a key role in students' getting employment in relevant industries.
1203	Coding Theory & Applications	M17 CS 1103	This course makes students learn the concepts related to information, entropy, mutual information and Shannon's fundamental limits, theorems and Error correcting codes. This understanding plays a key role in students' getting employment in relevant industries.
1204	Advanced Digital Signal Processing	M17 CS 1104	This course helps students learn the concepts related to design and implementation techniques of digital filter (both FIR & IIR) . This understanding plays a key role in students' getting employment in relevant industries.
1205	Optical & Data Communications Laboratory	M17 CS 1111	This course helps students learn the concepts related to optical fiber and applications in both analog & digital optical communication systems. This understanding plays a key role in students' getting employment in relevant industries.
1206	Radar Signal Processing #ELE-1	M17 CS1105	This course helps students learn the concepts related to Derivation of Radar range and Design of matched filter for different noises. This understanding plays a key role in students' getting employment in relevant industries.
1207	Optical Communication Technology #ELE-1	M17 CS 1106	This course helps students learn the concepts related to designing and operating principles of modern optical communication systems and networks. This understanding plays a key role in students' getting employment in relevant industries.
1208	Advanced Computer Networks #ELE-1	M17 CS 1107	This course enables students to learn the concepts related to the principles of computer networks and Congestion and Quality of Service. This understanding plays a key role in students' getting employment in relevant industries.
1209	Wireless LANs and PANs #ELE-2	M17 CS 1108	This course makes students learn the concepts related to different generations of mobile networks and wireless networks. This understanding plays a key role in students' getting employment in relevant industries.
1210	Mobile Computing Technologies #ELE-2	M17 CS1109	This course enables students to learn the concepts related to WAP and Wireless LAN. This understanding plays a key role in students' getting employment in relevant industries.
1211	Network Security & Cryptography #ELE-2	M17 CS 1110	This course makes students learn the concepts related to cryptography, authentication and emerging security standards. This understanding plays a key role in students' getting employment in relevant industries.
1212	RF Circuit Design	M17 CS 1201	This course helps students to learn the concepts related to the design and analysis of single and multiport networks and RF Filters. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1213	Wireless Communications and Networks	M17 CS 1202	This course enables students to learn the concepts related to functioning of wireless communication system and evolution of different wireless communication systems and standards. This understanding plays a key role in students' getting employment in relevant industries.
1214	Image and Video Processing	M17 CS 1203	This course helps students to learn the concepts related to digital image processing and video processing. This understanding plays a key role in students' getting employment in relevant industries.
1215	Software Defined Radio	M17 CS 1204	This course aims at enabling students to learn various aspects of the fundamental radio components, software architecture, SDR, and future communication systemsn problems. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1216	Advanced Communications Laboratory	M17 CS 1211	This course makes students learn the concepts related to measurement of bit error rate, Hamming distance and coding techniques and calculation efficiency of spread spectrum techniques. This understanding plays a key role in students' getting employment in relevant industries.
1217	Soft Computing Techniques #ELE-3	M17CS1205	This course enables students learn the concepts related to soft computing basics and c implementation details on Artificial Neural Networks. This understanding plays a key role in students' getting employment in relevant industries.
1218	Smart Antennas #ELE-3	M17CS1206	This course enables students learn the concepts related to smart antennas, types of arrays, adaptive processing techniques, and different diversity combining techniques. This understanding plays a key role in students' getting employment in relevant industries.
1219	Secure Communications #ELE-3	M17CS1207	This course aims at helping students learn various aspects of Security, data modelling, and handling security risks. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1220	Optical Networks #ELE-4	M17CS1208	This course makes students learn the concepts related to Various components of optical networks and Multiplexing techniques and fibre characteristics. This understanding plays a key role in students' getting employment in relevant industries.
1221	Digital Signal Processors and Architectures #ELE-4	M17CS1209	This course enables students to understand the concepts related to -basic DFT, FFT and rate conversion algorithms dynamic range and sources of errors in DSP systems.This understanding plays a key role in students' getting employment in relevant industries.
1222	Internet Of Things #ELE-4	M17CS1210	This course enables students to understand the concepts related to hands-on project development and innovative applications of IoT technologies.This understanding plays a key role in students' getting employment in IOT based industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1223	Project Work Part-I	M17 CS 2103	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1224	Project Work Part-II	M17 CS 2202	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1225	Advanced Power system Operation and control	M17 PS 1101	This course focuses on employability of students by making them understanding Economical operation using thermal plants and combined hydro thermal plants
1226	HVDC Transmission	M17 PS 1102	This course focuses on employability of students by making them understand HVDC transmission techniques.
1227	Reactive Power Compensation & Management	M17 PS 1103	This course focuses on employability of students by making them understand Deals with role of Reactive Power Compensation at electrical traction systems and arc furnace.
1228	Analysis of Power Electronics Converters	M17 PS 1104	This course focuses on employability of students by making them understand Deals with control principle of AC -AC conversion with suitable devices
1229	Simulation Laboratory	M17 PS 1113	This course enables students to practice usage of MATLAB to electrical problems like load flow solution, fault analysis .The learning outcomes of the course contribute to skill development.
1230	Modern Control Theory #ELE-1	M17 PS1105	This course focuses on employability of students by making them understand analysis and stability of continuous time invariant systems
1231	Power System Security #ELE-1	M17 PS1106	This course focuses on employability of students by making them understand with Real time control of power system
1232	Optimization Techniques #ELE-1	M17 PS1107	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes of the course contribute to employability.
1233	Generation and Measurement of High Voltage #ELE-1	M17 PS1108	This course makes students understand the measurement techniques for high AC, DC and impulse current The learning outcomes of the course contribute to employability.
1234	Renewable Energy Systems #ELE-2	M17 PS1109	This course focuses on employability of students by making them understand wind, solar energy systems
1235	Advanced Digital Signal Processing #ELE-2	M17 PS1110	This course focuses on employability of students by making them understand the design of digital filtershelps for employability
1236	Power System Reliability #ELE-2	M17 PS1111	This course makes students understand the with reliability analysis of generation . The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1237	Electrical Distribution Systems #ELE-2	M17 PS1112	This course focuses on employability of students by making them understand design of substation and distribution system
1238	Power system Dynamics & stability	M17 PS 1201	This course makes students understand the concept of dynamics, stability, excitation and SMIB of power system. The learning outcomes of the course contribute to employability.
1239	Real Time Control of Power Systems	M17 PS 1202	This course makes students understand the significance of voltage and stability analysis, importance of security. The learning outcomes of the course contribute to employability
1240	Artificial Intelligence Techniques	M17 PS 1203	This course makes students understand the course provides GA in optimization, Fuzzy and ANN architecture. The learning outcomes of the course contribute to employability.
1241	Flexible AC Transmission Systems	M17 PS 1204	This course makes students understand the different FACTS controller, SVC, TCSC and applications. The learning outcomes of the course contribute to employability.
1242	Power system laboratory	M17 PS 1213	This course enables students to practice Determination of Sequence Impedance of an Alternator, measurement of ABCD parameters of transmission line. The learning outcomes of the course contribute to skill development.
1243	Smart Grid Technologies #ELE-3	M17PS1205	This course makes students understand about knowledge of microgrids and distributed energy systems. The learning outcomes of the course contribute to employability.
1244	Power Quality #ELE-3	M17PS1206	This course makes students understand voltage sag, swell, harmonics in power system. The learning outcomes of the course contribute to employability.
1245	Advanced Power System Protection #ELE-3	M17PS1207	This course makes students understand the different protection schemes for electrical devices. The learning outcomes of the course contribute to employability.
1246	EHVAC Transmission #ELE-3	M17PS1208	This course makes students understand the calculation of field effects on EHV and UHVAC. The learning outcomes of the course contribute to employability.
1247	Power System Deregulation #ELE-4	M17PS1209	This course makes students understand the analyzing various types of electricity market operation and control issues using new mathematical model. The learning outcomes of the course contribute to employability.
1248	High Voltage Testing Techniques #ELE-4	M17PS1210	This course makes students understand non destructive testing methods. The learning outcomes of the course contribute to employability.
1249	Power System Transients #ELE-4	M17PS1211	This course makes students understand the effect of over voltages, lightning in power systems. The learning outcomes of the course contribute to employability.
1250	Voltage Stability #ELE-4	M17PS1212	This course makes students understand reactive power compensation and voltage control. The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1251	Project Work Part-I	M17 PS 2103	Skill development
1252	Project Work Part-II	M17 PS 2202	Skill development
1253	Advanced Data Structures	M17 IT 1101	This course is a comprehensive look at the ideas, analysis, and implementation details of data structures as a specialized topic in applied algorithms. The learning outcomes of this course contribute to employability prospects of students.
1254	Distributed Systems	M17 IT 1102	This course is A distributed system is a system whose components are located on different networked computers, which communicate and coordinate their actions by passing messages to one another from any system.The learning outcomes of this course contribute to employability prospects of students.
1255	Software Requirements And Estimation	M17 IT 1103	This course provides Software Requirements and Estimation provides software professionals the information they need to address requirements engineering and estimation .The learning outcomes of this course contribute to employability prospects of students.
1256	Data Mining And Knowledge Discovery	M17 IT 1104	This course provides info about technology that aggregates structured data from one or more sources so that it can be compared and analyzed rather than transaction processing .The learning outcomes of this course contribute to employability prospects of students.
1257	Advanced Computer Networks	M17 IT 1105	This course enhances advanced Internet procedures and technologies are described which support an efficient, effective and secure interconnection of both distributed applications and related structured data..The learning outcomes of this course contribute to employability prospects of students.
1258	Web Technologies	M17 IT 1106	This course gives info about Web Technology surefers to the various tools and techniques that are utilized in the process of communication between different types of devices over the internet .The learning outcomes of this course contribute to employability prospects of students.
1259	IT LAB1	M17 IT 1107	This course helps develop the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
1260	Advanced Unix Programming	M17 IT 1201	This course describes the application programming interface of the UNIX family of operating systems..The learning outcomes of this course contribute to employability prospects of students.
1261	Cyber Security	M17 IT 1202	Cyber security gives info about the application of technologies, processes and controls to protect systems, networks, programs, devices and data from cyber attacks..The learning outcomes of this course contribute to employability prospects of students.
1262	Big Data Analytics	M17 IT 1203	Big data analytics courses focuses on the advanced analytic techniques against large data sets, including structured/unstructured data and streaming/batch data .The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1263	Cloud Computing	M17 IT 1204	This course focuses on availability of computer system resources, especially data storage and computing power, without direct active management by the user..The learning outcomes of this course contribute to employability prospects of students.
1264	IT LAB2	M17 IT 1213	This course helps develop the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
1265	Adhoc & Sensor Networks #ELE-1	M17 IT 1205	Ad hoc networks course focuses on multi-hop networks consisting of wireless autonomous hosts .The learning outcomes of this course contribute to employability prospects of students.
1266	Semantic Webservices #ELE-1	M17 IT 1206	Semantic services course helps us to learn components of the semantic web because they use markup which makes data machine-readable in a detailed and sophisticated way.The learning outcomes of this course contribute to employability prospects of students.
1267	Principles Of Programming Languages #ELE-1	M17 IT 1207	This course helps to gain experience with the paradigms To understand concepts of syntax, translation, abstraction, and implementation..The learning outcomes of this course contribute to employability prospects of students.
1268	Internet Of Things #ELE-1	M17 IT 1208	This course describes physical objects with sensors, processing ability, software, and other technologies that connect and exchange data with other devices and systems over the Internet .The learning outcomes of this course contribute to employability prospects of students.
1269	Machine Learning #ELE-2	M17 IT 1209	This course provides inquiry devoted to understanding and building methods that 'learn', that is, methods that leverage data to improve performance on some set of tasks.The learning outcomes of this course contribute to employability prospects of students.
1270	Information Retrieval System #ELE-2	M17 IT 1210	An information retrieval (IR) system is a course which has set of algorithms that facilitate the relevance of displayed documents to searched queries.The learning outcomes of this course contribute to employability prospects of students.
1271	Image Processing & Pattern Recognition #ELE-2	M17 IT 1211	Image Processing and Pattern Recognition covers major applications in the field, including optical character recognition, speech classification, medical imaging, paper currency recognition, classification reliability techniques, and sensor technology..The learning outcomes of this course contribute to employability prospects of students.
1272	Software Testing Methodologies #ELE-2	M17 IT 1212	Software testing methodologies are the various strategies or approaches used to test an application to ensure it behaves and looks as expected..The learning outcomes of this course contribute to employability prospects of students.
1273	Project Work Part-I	M17 IT 2103	This course develops the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1274	Project Work Part-II	M17 IT 2202	This course develops the skills in different programming skills. The learning outcomes of this course contribute to skill development prospects of students.
1275	Industrial Robotics	M17 CAD 1101	The course deals with the construction and simulation of robots and their application in different areas, which, in turn, help for employability.
1276	Computer Aided Manufacturing	M17 CAD 1102	The course concentrates on the Integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve highest productivity, which helps students for employability.
1277	Special Manufacturing Processes	M17 CAD 1103	It concerns the design of computerised production layouts to easily adapt to changes in the type and quantity of the product being manufactured, which holds its relevance to entrepreneurship.
1278	Geometric Modelling	M17 CAD 1104	The course deals with the integration of computers and manufacturing tools to the realworld image procesing problems in industrys so as to achieve the highest productivity, which relates to employability.
1279	Computer Aided Design Lab	M17 CAD 1111	The course focuses on learning the use of CAD packages to make engineering drawings, which makes a way for students to gain employability skills.
1280	Computational Methods in Engineering #ELE-1	M17 CAD 1105	The course focuses on the application of complex mathematical solutions to solve real world problems in industry in order to achieve highest productivity, which, in turn, makes a way for employability.
1281	Theory of Elasticity & Plasticity #ELE-1	M17 CAD 1106	The course concerns the design of mathematical models to solve complex 2D&3D sresses and strains in real world engineering applications in order to devolop highest realiable engineering systems, which finally helps students for employability.
1282	Nano Technology #ELE-1	M17 CAD 1107	The course concentrates on providing various material characterisation tequiniques to enhance material properties of various engineering systems, which helps for employability finally.
1283	Design for Manufacturing & Assembly #ELE-2	M17 CAD 1108	The course deals with the integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve the highest productivity, which paves a way for enterpreneurship.
1284	Mechatronics #ELE-2	M17 CAD 1109	The course aims at the application of electronics and mechanics to solve various engineering problems to become industry ready, which enhances employability skills.
1285	Computer Aided Process Planning #ELE-2	M17 CAD 1110	The course throws light on the design of computerised production layouts to easily adapt to changes in the type and quantity of the product being manufactured, which helps for employability skills.
1286	Modeling & Simulation of ManufacturingSystems	M17 CAD 1201	The course concentrates on the integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve the highest productivity, which helps for enterpreneurship.
1287	Optimization & Reliability	M17 CAD 1202	The course aims at the application of complex mathematical solutions to solve real world problems in indutry in order to achieve the highest productivity, which enhances enterpreneurship.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1288	Computer Graphics	M17 CAD 1203	The course concentrates on the Integration of computers and manufacturing tools to the realworld image procesing problems in the industry so as to achieve the highest productivity, which paves a way for employability for students.
1289	Finite Element Methods	M17 CAD 1204	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in indutrial & engineering systems. It, thus, helps for employability.
1290	Computer Aided Manufacturing Lab	M17 CAD 1211	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become indutry ready, which develops skill for the students.
1291	Quality Engineering in Manufacturing #ELE-3	M17 CAD 1205	The course focuses on the integration of computer aided manufacturing tools to the realworld manufacturing methods in order to achieve the highest productivity, which enhances employability.
1292	Mechanical Vibrations #ELE-3	M17 CAD 1206	The course concentrates on understanding the mechanical behaviour of various composite materrials that are used in various engineering and industrial applicatiions, which has a direct bearing on employability skills.
1293	Concurrent Engineering #ELE-3	M17 CAD 1207	The course aims at designing and developing products in which the different stages run simultaneously rather than consecutively in order to achieve highest productivity in manufacturing processes. This makes a way for employability skills.
1294	Mechanics & Manufacturing Methods of Composites #ELE-4	M17 CAD 1208	The course aims at designing and developing products in which the different stages run simultaneously rather than consecutively in order to achieve highest productivity in manufacturing processes. This makes a way for employability skills.
1295	Materials Technology #ELE-4	M17 CAD 1209	The course concentrates on understanding various material characterisation techniques to enhance material material properties of various engineering systems, which enhances employability skills.
1296	Intelligent Manufacturing Systems #ELE-4	M17 CAD 1210	The course deals with the integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve highest productivity, which relates to employability skills finally.
1297	Project Work Part-I	M17 CAD 2103	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
1298	Project Work Part-II	M17 CAD 2202	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
1299	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability,adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1300	Mathematics – I *	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1301	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1302	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1303	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
1304	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1305	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
1306	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1307	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1308	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
1309	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
1310	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1311	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1312	Building Materials and Construction	B17 CE 1201	This course arms the Civil Engineer with knowledge of building materials and their specific applications in various building and infrastructure projects. It helps for employability.
1313	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
1314	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1315	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this intern enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1316	Mathematics -IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
1317	Mechanics of Solids	B17 CE 2101	The student gauges the limits of loading various shapes and materials used in Civil Engineering Structures. Knowledge of these concepts is essential to later design courses. It also helps for employability.
1318	Environmental Engineering - I	B17 CE 2102	The course arms a public health engineer with knowledge of water sourcing, treatment, storage and supply for public works. The course prepares one for treatment of water to Indian potable water standards. It also helps for employability.
1319	Building Planning & Design	B17 CE 2103	The course covers the essentials of designing, drafting regular residential buildings and the process of getting approval for construction. It helps for entrepreneurship.
1320	Surveying-I	B17 CE 2104	This course is basic numeracy for a Civil Engineer who is expected to map the reality (surveying) and transform the reality ( Design and Build) and again repeat this cycle time and again as societal needs keep evolving. It helps for employment.
1321	Engineering Geology	B17 CE 2105	Construction Engineers (building materials), Geotechnical Engineers (soil identification), Water Resource Engineers (Ground Water), Transportation Engineers (route alignments) will use Geological knowledge in their everyday jobs. Remote Sensing tools and Geophysical Methods are used in site investigations for prospecting, minerals, rocks, ground water, geological formations (faults, fractures etc.). It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1322	Engineering Geology Lab	B17 CE 2106	The student develops the skill of material identification from Rocks and Minerals. The student is also able to visualise various geological features such as fold, faults using concepts of strike and dip. It develops skills in students.
1323	Strength of Materials Laboratory	B17 CE 2107	This laboratory develops skills necessary for understanding failure of materials and quality of construction materials. These skills are essential for a structural design engineer. It develops skills in students.
1324	AutoCAD for Civil Engineering	B17 CE 2108	Computer Aided Drafting is an essential skill of Civil Engineer and this course offers ample opportunity to hone this skill in the latest industry preferred software such as Autodesk AutoCAD. It develops skills in students.
1325	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1326	Professional Ethics & Human Values	B17 BS 2108	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment* at large. It helps for employability.
1327	Structural Analysis -I	B17 CE 2201	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures. It also helps for employability.
1328	Fluid Mechanics- I	B17 CE 2202	This course covers the mathematical concepts and frameworks used in designing hydrostatic and hydrodynamic systems used in Civil Engineering such as water retaining structures and conveying structures such as channels and pipes. It also helps for employability.
1329	Environmental Engineering - II	B17 CE 2203	This course is essential for public health engineers handling sewerage and sewage treatment works. The course equips one with theoretical knowledge of the treatment units and their applications in specific stages of treatment plant. It helps for employability.
1330	Concrete Technology	B17 CE 2204	This is an essential course for a Civil Engineer to work in Building Technology, specific to concrete and its application in contemporary industry. It also helps for employability.
1331	Surveying - II	B17 CE 2205	The course prepares a Civil Engineer to handle surveying tasks as a site engineer using a variety of contemporary survey equipment including Total Station. It helps for employability.
1332	Remote Sensing & GIS	B17 CE 2206	This course is essential for Civil Engineers involved in large scale project planning and site investigation whether for foundation design, water resource planning, waste disposal, route planning or overall urban heat island studies and impact on macro climate. The tools are also used in large scale projects like dams, reservoirs, war theatre planning etc., It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1333	Surveying Field Work	B17 CE 2207	This laboratory helps develop the practical skill of measuring land and development features such as roads, canals, buildings etc., and mapping the same to scale for use in planning and design of infrastructure. It develops skills in students.
1334	Fluid Mechanics Lab- I	B17 CE 2208	Student becomes adept in measuring flow parameters in pipes and channels under various conditions. The student will also become acquainted with the performance of different shapes of weirs and notches that are employed as flow measuring devices in the field. It develops skills in students.
1335	Industry Oriented Technology Lab	B17 CE 2209	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc.,It develops skills in students.
1336	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
1337	Structural Analysis -II	B17 CE 3101	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures.
1338	Reinforced Concrete Structures -I	B17 CE 3102	This course prepares the structural engineer to design common building elements such as roof slabs, frames, footings and staircases as per concrete design code of India.
1339	Steel Structures- I	B17 CE 3103	This course prepares the student with basic knowledge of steel connections, member types and design of trusses and frames used in structures and bridges.
1340	Geotechnical Engineering -I	B17 CE 3104	Knowledge of behavior of soil under building loads and environmental variations such as ground water, earth quakes etc., is essential knowledge for design of foundations.
1341	Fluid Mechanics -II	B17 CE 3105	The course arms the Hydraulic Engineer with knowledge of designing pipes and channels experiencing laminar and turbulent flows. The course also deals with knowledge of lift, drag and propulsion which are essential for studying effects on wind on structures.
1342	Estimation & Quantity Surveying	B17 CE 3106	The course is essential for Engineers who want to become contractors or entrepreneurs in preparing bill of quantities and tender documents. The skill is also essential for becoming a certified valuer.
1343	Environmental Engineering Lab	B17 CE 3107	The lab gives practise to a public health engineer in conducting routine water quality tests expected in a public water treatment plant.
1344	Fluid Mechanics Lab II	B17 CE 3108	The student develops the skill of testing pump characteristics, drawing performance curves for vanes and turbines. The student also verifies various equations used for describing flow conditions.
1345	Geographic Information Systems Laboratory	B17 CE 3109	The student develops the skill of using GPS for location fixing, surveying, GIS and Remote Sensing for mapping and Geospatial Analysis for route planning, site selection, volume calculations, inundation scenarios etc.,



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## SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE (A)

China Amiram, Bhimavaram, Andhra Pradesh- 534204

S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1346	Problem Solving & Linguistic Competence	B17BS 3101	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams such as CAT, GATE, GMAT, GRE, IELTS et.,
1347	Reinforced Concrete Structures-II	B17 CE 3201	The student practises design and drafting of structures (other than buildings) like Retaining Walls, Tanks, Bridges, Piles, Bunkers etc., as per the Indian Concrete Design Code.
1348	Steel Structures-II	B17 CE 3202	The course builds on the basic course in steel structure design and provides experience in design of diverse steel structures as per the Indian steel design code.
1349	Geotechnical Engineering-II	B17 CE 3203	The second course on Geotechnical Engineering gives further design knowledge in different types of foundations and frameworks for analysis of stability of slopes. The course includes calculation of earth pressure based on various theories.
1350	Transportation Engineering-I	B17 CE 3204	The course prepares the Civil Engineer for designing highway and airport systems with specifics about pavement material selection and design.
1351	Air pollution and Control	B17 CE 3205	This course equips the Environmental Engineer with specific knowledge about measuring, monitoring air pollution and designing control strategies for air pollution.
1352	Data Base Management Systems #OE	B17CS3213	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1353	Alternative Energy Sources #OE	B17CE3206	The course expands the knowledge of the Civil Engineer into newer energy technologies which are of decentralised nature. The future buildings will have to become self generating and this course introduces the Civil Engineer to the basics of tapping alternative energies in buildings.
1354	Wastewater Management #OE	B17CE3207	This course is essential to the EHS engineer working in Industries to handle the effluent treatment works in Industries. The course also arms one with the knowledge of reporting effluent treatment performance to regulators.
1355	Green Fuel Technologies #OE	B17CE3208	The course extends the Civil Engineers interest to resource recovery, predominantly from agro residues and plant material in generating bio fuels that could replace fossil fuels in the future.
1356	Geotechnical Engineering Lab	B17 CE 3209	The student carries out the standard tests on soils which are essential for foundation design. These skills are essential for a Quality Control / Highway / Geotechnical engineer.
1357	Concrete Technology Lab	B17 CE 3210	The students develop the skill of mixing building materials to prepare concrete and mortars of various grades to achieve desired strength characteristics. The skills are indispensable for Quality control engineers that work at project sites and Ready Mix Concrete Plants.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1358	Employability Skills	B17BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1359	Basic Coding	B17BS 3202	This introductory course lays the foundation for programming and ability to use modern tools in ICT. Programming knowledge also inculcates system thinking and ability to reduce the problem to its fundamentals. It is a key skill required in modern work place of all engineering specialisations.
1360	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1361	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1362	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
1363	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
1364	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1365	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1366	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
1367	C Programming Lab & Hardware Fundamentals	B17 CS 1102	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1368	English – II*	B17 BS 1201	The course enhances ones interest in systemic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1369	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis taks of Civil Engineers. It helps for employability skills.
1370	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1371	Engineering Drawing	B17 ME 1201	The course concentrates on the improvemnet of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1372	Object Oriented Programming Through C++	B17 CS 1202	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1373	Elements of Electronics Engineering	B17 EC 1201	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1374	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
1375	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1376	Object Oriented Programming Lab	B17 CS 1205	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1377	Data Structures	B17 CS 2101	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1378	Probability, Statistics and Queuing Theory	B17 BS 2102	This course enables the students to acquire essential skills needed for enhancing their skills in Fundamental knowledge of the probability concepts and Acquire skills in analysing queueing mode



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1379	Discrete Mathematical Structures	B17 BS 2103	This course helps the students understand different types of relations.
1380	Computer Graphics	B17 CS 2102	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's getting employment in relevant industries
1381	Digital Logic Design	B17 CS 2103	This course enables the students to acquire knowledge and understanding of the design of digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits which helps them become employable.
1382	Data Analysis and Visualization using Python	B17 CS 2104	This course aims at enabling the students to learn various aspects of graphical design , photography etc . This exposure gain from the course contributes to development of skills needed for more advanced applications.
1383	Data Structures Lab.	B17 CS 2105	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1384	Data Analysis and Visualization using Python Lab	B17 CS 2106	This course aims at enabling the students to learn various aspects of graphical design , photography etc . This exposure gained from the course contributes to the development of skills needed for more advanced applications that will lead to better employability opportunities.
1385	Industry oriented Training : R Programming Lab	B17CS 2107	This course makes the student to apply the concepts related to visualization and data cleaning, business analytics. This understanding plays a key role in students getting employment in relevant industries.
1386	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1387	Computer Organization	B17 CS 2201	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU, Memory and I/O organizations, and these will help the students to improve their employability skills
1388	Operating Systems	B17 CS 2202	This course helps students learn the concepts related to CPU scheduling ,memory management etc. This understanding plays a key role in students getting employment in relevant industries
1389	Microprocessors	B17 CS 2203	This makes the students improve their skills as this course deals with introducing 8085 and 8086 microprocessor architecture and microcomputer systems, including memory and input/output interfacing. This knowledge contributes to student's getting employed in relevant companies.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1390	Data Communications	B17 CS 2204	This course enables students learn the concepts related to the process of using computing and communication technologies to transfer data from one place to another, or between participating parties . This understanding plays a key role in student's employment in relevant industries
1391	Advanced Data Structures	B17 CS 2205	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1392	Operations Research	B17 ME 2207	The course familiarizes the use of practice oriented mathematical applications for optimization functions in an organization, which in turn, helps students for entrepreneurship.
1393	Operating Systems & Unix programming Lab	B17 CS 2206	This course enables students learn the concepts related to the areas of UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. This understanding plays a key role in student's employment in relevant industries.
1394	Digital Electronics & Microprocessors Lab	B17 CS 2207	It makes them improve their skills in building basic blocks of digital electronics,logic gates,combination circuits and programming on 8085 assembly language used for skill development
1395	Competitive Programming Lab	B17 CS 2208	This course enables students learn the concepts related to learn how to apply algorithms in order to solve complex problems and apply familiar algorithms to non-intuitive problems. This understanding plays a key role in student's employment in relevant industries and acquires skills in this area.
1396	Professional Ethics & Human Values	B17 BS 2204	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
1397	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.
1398	Computer Networks	B17 CS 3101	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
1399	Web Technologies	B17 CS 3102	This course enables students apply the concepts related to HTML, java script, XML, AJAX and PHP. This understandig and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.



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1400	Formal Languages & Automata Theory	B17 CS 3103	This course aims at helping students to learn various applications of formal languages and role of formal languages in the development of compiler for particular language. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
1401	Database Management Systems	B17 CS 3104	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1402	Application Development Using Java	B17 CS 3105	This course enables students to apply the concepts related Swings,Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of designing plays a key role in students' getting employment in relevant industries.
1403	Database Management Systems Lab.	B17 CS 3108	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1404	Application Development Lab.	B17 CS 3109	This course enables students to apply the concepts related Swings,Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of designing plays a key role in students' getting employment in relevant industries.
1405	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
1406	Advanced Coding	B17 BS 3103	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
1407	Embedded Systems #OE	B17CS3106	This course enables the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
1408	Cyber Security #OE	B17CS3107	With the emergence of e-Commerce and various other websites, data security is the most critical issue in ensuring safe transmission of information through the internet. As the world is embracing more digital advancements, network security issues are becoming increasingly important. This course helps students to implement security protocols, this will play a key role in students getting employment in relevant industries.



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1409	Digital Signal Processing #OE	B17EC3109	This course enables students to understand the concepts related to the fundamental principles of Digital Signal Processing and analysing and designing tools required for signal processing systems. This understanding plays a key role in improving students' employability prospects.
1410	Industrial Robotics #OE	B17ME3110	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
1411	Data Warehousing & Data Mining	B17 CS 3201	This course enables students learn the concepts related to Data mining attempts to depict meaningful patterns through a dependency on the data that is compiled in the data warehouse. This understanding plays a key role in student's employment in relevant industries
1412	Object Oriented Software Engineering	B17 CS 3202	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program helps the students in acquiring employability and entrepreneurship skills.
1413	Design and Analysis of Algorithms	B17 CS 3203	This course aims at helping the students understand the different paradigms for problem solving and gives the knowledge for analysing the algorithms for solving different types of problems in Computer Science. This exposure gained from the course contributes to the development of skills needed for problem solving.
1414	Artificial Intelligence	B17 CS 3204	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks.
1415	Compiler Design	B17 CS 3205	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the development of skills needed for more advanced learning.
1416	Software Engineering Mini Project Lab	B17 CS 3210	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's getting employment in relevant industries
1417	Network Programming Lab	B17 CS 3211	This course makes students learn the concepts related to working of computer networks in real time, and simulation of various topologies. This understanding plays a key role in student's getting employment in relevant industries.
1418	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1419	Competitive Coding	B17 BS 3204	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skill development prospects of students.
1420	Cloud Computing #Elective-I	B17CS3206	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet offer faster innovation, flexible resources, and economies of scale. This understanding plays a key role in student's getting employment in relevant industries



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1421	Mobile Computing # Elective-I	B17CS3207	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
1422	Distributed Systems #Elective-I	B17CS3208	This course enables students learn the concepts related to computing environment in which various components are spread across multiple computers on a network. This understanding plays a key role in student's employment in relevant industries.
1423	Information Retrieval Systems #Elective-I	B17CS3209	This course enables students learns the concepts related to information retrieval system that facilitate the relevance of displayed documents to searched queries by using algorithms. This understanding plays a key role in student's getting employment in relevant industries
1424	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1425	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1426	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
1427	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
1428	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1429	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1430	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1431	C Programming Lab	B17 CS 1103	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1432	English – II*	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1433	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
1434	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1435	Engineering Drawing	B17 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1436	Data Structures	B17 CS 1203	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1437	Elements of Electrical Engineering	B17 EE 1203	This course makes students understand regarding electrical and magnetic circuits, construction and operation of DC machines, introduction to AC circuits, synchronous machines and Transformers . The learning outcomes of the course contribute to employability.
1438	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
1439	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1440	Engineering Workshop & IT Workshop	B17 BS 1209	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1441	Mathematics - IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1442	Electronic Devices and Circuits	B17 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1443	Switching Theory and Logic Design	B17 EC 2102	This course aims at helping students understand various aspects of number systems and minimization of Boolean functions. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1444	Signals and Systems	B17 EC 2103	This course aims at enabling students to learn various aspects of fundamental techniques associated with signals and systems. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1445	Network Analysis	B17 EE 2104	This course aims at helping students understand various aspects of theorems and techniques in electric circuit analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1446	Probability Theory and random Processes	B17 EC 2104	This course enables students to understand the concepts related to axiomatic formulation of modern probability theory. This understanding plays a key role in students' getting employment in relevant industries.
1447	Electronic Devices and Circuits Lab	B17 EC 2107	The experiments carried out in this lab consolidate student's understanding of the steps involved in the operation of CROs, function generators and bread boards and electronics circuits. The knowledge gained in this lab is essential to students in getting employment in related industries.
1448	Networks and Electrical Technology Lab	B17 EE 2106	This course focuses on employability of students by making them understand the concepts related to measuring of R,L and Capacitance values using bridge circuits..
1449	Programming Skills-I	B17 BS 2106	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1450	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1451	Electronic Circuit Analysis	B17 EC 2201	This course makes students apply the concepts related to the classification of feedback amplifiers and analyze them. This understanding plays a key role in students' getting employment in relevant industries.
1452	Control Systems	B17 EE 2203	This course makes students understand the concentrates on different control system, block diagram SFG representation and controllers and stability. The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1453	Electromagnetic Field Theory and Transmission Lines	B17 EC 2202	This course aims at enabling students to learn various aspects of static electric field, steady magnetic field and time varying electromagnetic fields in real time applications. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1454	Analog Communications	B17 EC 2203	This course aims at helping students understand various fundamental concepts of communication system. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1455	Computer Architecture and Organization	B17 EC 2204	This course aims at enabling students to learn various fundamental blocks of a Basic Digital Computer. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1456	Management Science	B17 BS 2201	Content-with direct bearing on Entrepreneurship
1457	Electronic Circuit Analysis Lab With Simulation	B17 EC 2207	The experiments carried out in this lab consolidate students' understanding of the steps involved in Observing the amplitude and frequency responses of negative feedback amplifiers and RC coupled amplifiers. The knowledge gained in this lab is essential to students in getting employment in related industries.
1458	Analog Communication Lab	B17 EC 2208	The experiments carried out in this lab consolidate students' understanding of the steps involved in the various Analog communication modules. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
1459	Programming Skills-II	B17 BS 2205	Skill development with direct bearing on Employability
1460	Professional Ethics & Human Values	B17 BS 2204	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
1461	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.
1462	Pulse and Digital Circuits	B17 EC 3101	This course aims at helping the students to learn various aspects of Wave Shaping and Multivibrators. This understanding contributes to the development of skills needed for more advanced applications.
1463	Linear ICs and Applications	B17 EC 3102	This course aims at enabling students to understand various aspects of characteristics of operational amplifier for liner and non liner applications. This understanding contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1464	Electronic Measurements And Instrumentation	B17 EC 3103	This course aims at helping students to learn the requirements to understand and analyze different signal generators and analyzers. This understanding contributes to the development of skills needed for more advanced applications.
1465	Digital Communication	B17 EC 3104	This course aims at enabling students to learn various aspects of digital communication systems and its applications. This understanding contributes to the development of skills needed for more advanced applications.
1466	Antennas and Propagation	B17 EC 3105	This course aims at helping students to understand various aspects of radiation mechanism of antennas and its basic parameters like impedance, gain, directivity, bandwidth, effective length, beam width and radiation pattern etc. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1467	Computer Network Engineering	B17 EC 3106	This course enables students to apply the fundamental concepts of computer networking and network engineering reference models. This understanding helps them in improving their employability prospects in relevant industries.
1468	Linear Integrated Circuits and Pulse Circuits Lab with Simulation	B17 EC 3107	The experiments carried out in this lab consolidate student's understanding of the steps involved in design, assembly and evaluation of Linear integrated circuits & Pulse Circuits. The knowledge gained in this lab is essential to students in getting employment in relevant industries.
1469	Digital ICs Laboratory with simulation	B17 EC 3108	This course makes students apply conceptualize the concepts related to digital electronics, Boolean algebra, and able to design the simple logic circuits and test/verify the functionality of the logic circuits. This understanding plays a key role in students' getting employment in relevant industries.
1470	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
1471	Basic Coding	B17 BS 3102	The course Basic Coding aims at helping students to learn various aspects of software programming skills. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1472	Microprocessors and its Applications	B17 EC 3201	This course makes students understand the concepts related to the architecture of 8085 Microprocessor and ALP programming. This understanding plays a key role in students' getting employment in relevant industries.
1473	Microwave Engineering	B17 EC 3202	This course enables students to apply the concepts related to operational characteristics of active and passive components at microwave frequencies. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1474	VLSI Design	B17 EC 3203	This course enables students to apply the concepts related to mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnections and also understand the various fabrication steps of NMOS and CMOS. This understanding plays a key role in improving students' employability prospects.
1475	Digital Signal Processing	B17 EC 3204	This course enables students to understand the concepts related to the fundamental principles of Digital Signal Processing and analysing and designing tools required for signal processing systems. This understanding plays a key role in improving students' employability prospects.
1476	Radar Engineering	B17 EC 3205	This course enables students learn conceptualize the concepts related to mainly focus on To apply different methods to measurement the Range, angle information etc. of the target from the radar . This understanding plays a key role in students' getting employment in relevant industries.
1477	Microcontrollers #OPEN ELECTIVE	B17EC3206	This course helps students understand the concepts related to the basic architectures of various processors and controllers. This understanding plays a key role in improving students' employability prospects.
1478	Oops through Java#OPEN ELECTIVE	B17CS3214	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1479	Data Mining #OPEN ELECTIVE	B17CS3215	Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
1480	Industrial Robotics #OPEN ELECTIVE	B17ME3210	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
1481	Power Electronics #OPEN ELECTIVE	B17EE3209	This course makes students understand the power semiconductor device and applications. The learning outcomes of the course contribute to employability.
1482	Bio Medical Engineering #OPEN ELECTIVE	B17EC3207	This course makes students learn the concepts related to properties and suitable models of important biological signal such as ECG and EEG. These learning outcomes contribute to the improvement of employability prospects of students in relevant industries.
1483	Artificial Neural Networks #OPEN ELECTIVE	B17CS3216	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks. These skills will play a key role in student's getting employment in relevant industries,
1484	Microprocessors and Microcontrollers Lab	B17 EC 3208	The experiments carried out in this lab consolidate students' understanding of the steps involved in the the basics of Microprocessors 8086 and Microcontroller 8051. The knowledge gained in this lab is essential to students in getting employment in communication based industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1485	VLSI Lab	B17 EC 3209	The experiments carried out in this lab consolidate students' understanding of the steps involved in the RTL using Verilog HDL. The knowledge gained in this lab is essential to students in getting employment in industries related VLSI.
1486	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1487	Advanced Coding	B17 BS 3203	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1488	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1489	Mathematics – I *	B17 BS 1102	The course M-1 enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1490	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1491	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1492	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
1493	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1494	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
1495	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1496	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1497	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
1498	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
1499	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
1500	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1501	Circuit Theory	B17 EE 1201	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1502	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
1503	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1504	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1505	Mathematics - IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
1506	Electronics Devices & Circuits	B17 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1507	Network Analysis and Synthesis	B17 EE 2101	This course makes students analyze DC transients, two port network. The learning outcomes of the course contribute to employability.
1508	Electro Magnetic Field Theory	B17 EE 2102	This course focuses on the employability of students by making them learn basic concepts related to the effects of electrostatics and magnetostatics.
1509	Electrical Measurements & Instruments	B17 EE 2103	This course focuses on employability of students by making them understand the concepts related Analog measurements, RL,C measurement using bridges, CRO.
1510	Engineering Economics	B17 BS 2104	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
1511	Networks & Measurements Lab	B17 EE 2105	This course enables students to practice measuring of R,L and Capacitance values using bridge circuits and verification of theorems. The learning outcomes of the course contribute to skill development.
1512	Electronics Devices & Circuits Lab	B17 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1513	Programming Skills-I	B17 BS 2106	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1514	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1515	Professional Ethics & Human Values	B17BS 2108	This course, Professional Ethics and Human Values, aims at helping students understand various aspects of integrity, honesty, transparency, respectfulness towards the job, confidentiality, objectivity etc. This exposure gained from the course contributes to the development of skills and values needed for more advanced learning and professional endeavours.
1516	Electrical Machines-I	B17EE 2201	This course makes students understand regarding construction and operation of DC machines and Transformers. The learning outcomes of the course contribute to employability.
1517	Signals & Systems	B17EE 2202	This course makes students understand different signal and their analysis, fouries and Z-transform. The learning outcomes of the course contribute to employability.
1518	Electronic Circuit Analysis	B17EC 2205	This course makes students apply the concepts related to the classification of feedback amplifiers and analyze them. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1519	Prime movers & Pumps	B17ME 2206	This course enables students in learning the characteristics of fluids and working nature of hydraulic machines that help in developing employability of the students.
1520	Linear Integrated and Pulse Circuits	B17EC 2206	This course focuses on employability of students by making them understand operational amplifiers and multivibrators.
1521	Management Science	B17BS 2201	This course aims at helping students understand various fundamental aspects of Evolution of Management thought, functions & principles of management. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1522	Thermal Prime Movers Lab	B17ME 2210	This course relates to providing knowledge on functioning of various IC engines, viscosities, flash and fire points of oil samples that help in developing employability of the students.
1523	Linear Integrated Circuits & Pulse Digital Circuits Lab with Simulation	B17EC 2209	This course enables students to practice linear and non linear wave shaping, multiplexers. The learning outcomes of the course contribute to skill development.
1524	Programming Skills-II	B17BS 2205	Content with direct bearing on Skill development
1525	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
1526	Electrical Machines-II	B17 EE 3101	This course makes students understand induction machines and synchronous machines operation. The learning outcomes of the course contribute to employability.
1527	Microprocessor & Microcontroller	B17 EE 3102	This course focuses on employability of students by making them understand 8085 microprocessor and microcontroller.
1528	Electrical Power Generation, Transmission & Distribution	B17 EE 3103	This course focuses on employability of students by making them understand different power plants generation, performance of transmission lines and overhead line insulators.
1529	Control Systems	B17 EE 3104	This course makes students understand the concentrates on different control system, block diagram SFG representation and controllers and stability. The learning outcomes of the course contribute to employability.
1530	Digital Electronics & Logic Design	B17 EE 3105	This course focuses on employability of students by making them understand boolean algebra and different combinational and sequential logic circuits.
1531	Non-Conventional Energy Sources	B17 EE 3106	This course focuses on employability of students by making them understand non conventional sources like solar, wind, ocean energy etc.
1532	Electrical Machines Lab-I	B17 EE 3107	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer. The learning outcomes of the course contribute to skill development.
1533	Microprocessor & Microcontroller Lab	B17 EE 3108	This course enables students to practice programming on 8-bit binary numbers, Working of 8085 processor and instruction set and microcontroller programming. The learning outcome of the course contribute to skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1534	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
1535	Basic Coding	B17 BS 3102	The course Basic Coding aims at helping students to learn various aspects of software programming skills. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1536	Advanced Control Systems	B17 EE 3201	This course makes students understand the components, state space design, lead lag compensators. The learning outcomes of the course contribute to employability.
1537	Power Electronics	B17 EE 3202	This course makes students understand the power semiconductor device and applications. The learning outcomes of the course contribute to employability.
1538	Power System Analysis And Stability	B17 EE 3203	This course focuses on employability of students by making them understand design and analysis of electrical power grids.
1539	Digital Signal Processing	B17 EE 3204	This course focuses on employability of students by making them understand discrete time signals, Z transform application, fast fourier transform.
1540	Power System Protection	B17 EE 3205	This course makes students understand the fuses, circuit breakers, relays. The learning outcomes of the course contribute to employability.
1541	Electrical Machines –II Lab	B17 EE 3207	This course enables students to practice functioning of induction machines and synchronous machines. Regulation of alternator by ZPF method, $X_d$ and $X_q$ of synchronous machine. The learning outcomes of the course contribute to skill development.
1542	Control Systems Lab	B17 EE 3208	This course enables students to practice first and second order system and characteristics of different controllers. DC and AC servomotor characteristics. The learning outcomes of the course contribute to skill development.
1543	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1544	Advanced Coding	B17 BS 3203	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1545	Oops Through Java # OE	B17 CS 3214	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1546	Unix & Shell Programming # OE	B17 CS 3217	This course enables the students to acquire essential skills needed for enhancing their skills to read, write, and debug UNIX shell scripts



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1547	Neural Networks & Fuzzy Logic # OE	B17 CS 3218	This course deals with concepts automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks
1548	VLSI Design # OE	B17 EC 3203	This course enables students to apply the concepts related to mathematical methods and circuit analysis models in analysis of CMOS digital electronics circuits, including logic components and their interconnections and also understand the various fabrication steps of NMOS and CMOS. This understanding plays a key role in improving students' employability prospects.
1549	Industrial Robotics # OE	B17 ME 3210	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
1550	English – I*	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1551	Mathematics – I*	B17 BS 1102	The course M-I enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.
1552	Mathematics-II	B17 BS 1103	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
1553	Engineering Physics	B17 BS 1104	The contents of Engineering physics are used to improve the analytical thinking of the students which helps to understand how various technologies are practically working which tends to improve their employability skills.
1554	Computer Programming Using C	B17 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1555	Engineering Physics Lab	B17 BS 1106	The experiments in Engineering Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1556	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1557	C Programming Lab & Hardware Fundamentals	B17 CS 1102	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1558	English – II*	B17 BS 1201	The course enhances ones interest in systemtic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1559	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis taks of Civil Engineers. It helps for employability skills.
1560	Engineering Chemistry	B17 BS 1205	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1561	Engineering Drawing	B17 ME 1201	The course concentrates on the improvemnet of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1562	Object Oriented Programming Through C++	B17 CS 1202	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1563	Elements of Electronics Engineering	B17 EC 1201	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1564	Engineering Chemistry Lab	B17 BS 1207	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
1565	English Communication Skills Lab – II*	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1566	Object Oriented Programming Lab	B17 CS 1205	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1567	Data Structures	B17 IT 2101	This course teaches students how to use abstract language, work with algorithms, self-analyze their computational thinking, and accurately modeling real-world solutions. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1568	Java Programming	B17 IT 2102	The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities. The learning outcomes of this course contribute to employability prospects of students.
1569	Mathematical Foundations of Computer Science	B17 BS 2105	Students will understand how to use abstract language, work with algorithms, self-analyze their computational thinking, and accurately modeling real-world solutions
1570	Computer Graphics	B17 IT 2103	The study principally depended on literature that suggested that spatial visualisation is developed throughout a person's lifetime and that it can be improved by partaking in spatial activities.
1571	Data Communications	B17 IT 2104	Communication and Networking are interrelated terms in field of Engineering. This course is considered as a fundamental course in understanding flow, propagation and type of data and the basic elements of networking and communication. The learning outcomes of this course contribute to employability prospects of students.
1572	Digital Logic Design	B17 IT 2105	Digital logic is the manipulation of binary values through printed circuit board technology that uses circuits and logic gates to construct the implementation of computer operations. The learning outcomes of this course contribute to employability prospects of students.
1573	Data Structures Lab	B17 IT 2106	A data structure is a specialized format for organizing, processing, retrieving and storing data. The learning outcomes of this course contribute to skill development prospects of students.
1574	Java Programming Lab	B17 IT 2107	Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies. The learning outcomes of this course contribute to employability prospects of students.
1575	Basic Coding	B17 IT 2108	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1576	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1577	Computer Organization	B17IT 2201	Computer Organization is concerned with the structure and behaviour of a computer system as seen by the user. It acts as the interface between hardware and software. The learning outcomes of this course contribute to employability prospects of students.
1578	Probability, Statistics & Queuing Theory	B17BS 2202	Use statistics and Queuing Theory to help develop solutions to practical problems. The learning outcomes of this course contribute to employability prospects of students.
1579	Microprocessors	B17IT 2202	This course provides knowledge on microprocessor, types of miniature electronic device that contains the arithmetic, logic, and control circuitry necessary to perform the functions. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1580	File Structures	B17IT 2203	A File structure is a specialized format for organizing, processing, retrieving and storing file. The learning outcomes of this course contribute to employability prospects of students.
1581	Unix & Shell Programming	B17IT 2204	This course deal operation and application of open source operating system, again this course is for those who want to build their carrier in software fields. The learning outcomes of this course contribute to employability prospects of students.
1582	Formal Language and Automata Theory	B17IT 2205	The finite automata or finite state machine is an abstract machine that has five elements or tuples. It has a set of states and rules for moving from one state to another but it depends upon the applied input symbol. The learning outcomes of this course contribute to employability prospects of students.
1583	Python Programming Lab	B17IT 2206	It improves skills and prepare student to work on project as software industry .The learning outcomes of this course contribute to skill development prospects of students.
1584	Digital Electronics And Micro Processors Lab	B17IT 2207	The microprocessor is a multipurpose, clock-driven, register-based, digital integrated circuit that accepts binary data as input, processes it according to instructions stored in its memory, and provides results (also in binary form) as output.The learning outcomes of this course contribute to employability prospects of students.
1585	Advanced Coding	B17IT 2208	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to skillability prospects of students.
1586	Professional Ethics & Human Values	B17BS 2204	human values convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
1587	English Proficiency-II	B17BS 2206	The course helps build LSRW skills in general and specifically research report writing. It helps for employability.
1588	Computer Networks	B17 IT 3101	This course is considered as a fundamental subject in understanding flow, propagation and type of data and the basic elements of networking ..The learning outcomes of this course contribute to employability prospects of students.
1589	E-Commerce	B17 IT 3102	This course give information to learn difference between a visitor and a customer..The learning outcomes of this course contribute to employability prospects of students.
1590	Compiler Design	B17 IT 3103	This course develops the concept of optimization in individual to achieve designed goals in engineering. Employability in this field requires core knowledge in this field. .The learning outcomes of this course contribute to employability prospects of students.
1591	Operating Systems	B17 IT 3104	This course focuses on structuring. Synchronization, communication and scheduling in parallel systems..The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1592	Database Management Systems	B17 IT 3105	This course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity..The learning outcomes of this course contribute to employability prospects of students.
1593	Design and Analysis of Algorithms	B17 IT 3106	This course helps to design and analyze the logic on how the program will work before developing the actual code for a program..The learning outcomes of this course contribute to employability prospects of students.
1594	Database Management Systems Lab	B17 IT 3107	This course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity..The learning outcomes of this course contribute to skill development prospects of student
1595	Unix and Operating Systems Lab	B17 IT 3108	This subject will deal with operation and application of open source operating system, again this subject is for those who want to build their carrier in software fields..The learning outcomes of this course contribute to skilldevelopment prospects of students.
1596	Problem Solving & Linguistic Competence	B17BS 3101	The course prepares the student to take the Generic Verbal and Quantitative Aptitude tests that are now part of all standardised exams suchas CAT, GATE, GMAT, GRE, IELTS et.,
1597	Competitive Coding-I	B17BS 3104	It improves skills and prepare student to work on project as software industry.The learning outcomes of this course contribute to entrepreneurship prospects of students.
1598	Web Technologies	B17 IT 3201	This courses refers to the way computers/devices communicate. with each other using mark up languages..The learning outcomes of this course contribute to employability prospects of students.
1599	Object Oriented Software Engineering	B17 IT 3202	This course helps in understanding the concept of modular as well as procedural programming in grass root level. The concept of basic features and applications of object-based programming is also added in this subject. .The learning outcomes of this course contribute to employability prospects of students.
1600	Cryptography & Network Security	B17 IT 3203	This course focuses on processed contents can be termed as information and this subject prevents the unauthorized access, use, disclosure, modification, inspection or destruction of information through strong firewall procedures..The learning outcomes of this course contribute to employability prospects of students.
1601	Statistics With R Programming	B17 IT 3204	This course focuses on data analysis including basic data visualization, statistical testing and inference, and linear modeling..The learning outcomes of this course contribute to employability prospects of students.
1602	Data Ware Housing and Business Intelligence	B17 IT 3205	This course focuses on technology that aggregates structured data from one or more sources so that it can be compared and analyzed rather than transaction processing..The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1603	Web Technologies Lab	B17 IT 3210	This course refers to the way computers/devices communicate. with each other using mark up languages..The learning outcomes of this course contribute to skill development prospects of students.
1604	Software Engineering and Mini Project Lab	B17 IT 3211	This course is dedicated to the planning, scheduling, resource allocation, execution, tracking, and delivery of software and web projects..The learning outcomes of this course contribute to skill development prospects of students.
1605	Employability Skills	B17BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1606	Competitive Coding-II	B17 BS 3205	It improves skills and prepare student to work on project as software industry..The learning outcomes of this course contribute to entrepreneurship prospects of students.
1607	Artificial Intelligence #OE	B17 IT 3206	This course helps professionals to master the concepts of data sources, knowledge acquisition and types of machine learning algorithms.The learning outcomes of this course contribute to entrepreneurship prospects of students.
1608	Semantic Web and Social Networks #OE	B17 IT 3207	This course focuses on the decision-making process and improves limited resources allocation capability of an individual.The learning outcomes of this course contribute to employability prospects of students.
1609	Digital Signal Processing #OE	B17 EC 3210	This courses focuses on digital processing, such as by computers or more specialized digital signal processors, to perform a wide variety of signal processing operations..The learning outcomes of this course contribute to employability prospects of students.
1610	Robotics #OE	B17 ME 3211	This course involves the conception, design, manufacture and operation of robots..The learning outcomes of this course contribute to employability prospects of students.
1611	Image Processing #OE	B17 IT 3208	This course enhances the technology, generation, transformation, extraction and interpretation of information via electronic signals.The learning outcomes of this course contribute to employability prospects of students.
1612	Operations Research #OE	B17 IT 3209	This course focuses on a method of mathematically based analysis for providing a quantitative basis for management decisions..The learning outcomes of this course contribute to employability prospects of students.
1613	English – I *	B17 BS 1101	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1614	Mathematics – I *	B17 BS 1102	The course M-1 enables students to learn and apply Mathematical concepts like Differential Equations and Laplace Transforms Partial Differentiation and First and Higher order partial differential equations. The knowledge of these concepts directly contributes to skill development in the Engineering applications like signal processing and electric circuits.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1615	Engineering Chemistry	B17 BS 1105	Under this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1616	Engineering Mechanics	B17 ME 1101	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1617	Engineering Drawing	B17 ME 1102	This course focuses on improvement of visualization and imagination skills of an engineer to make and read engineering drawings.
1618	Engineering Chemistry Lab	B17 BS 1107	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1619	English Communication Skills Lab – I *	B17 BS 1108	The phonetic concepts and communicative aspects of the course facilitates the students to improve speaking skills that helps in the development of communication skills.
1620	Engineering Workshop & IT Workshop	B17 BS 1109	This course aims at applying fundamentals of IT and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1621	English – II *	B17 BS 1201	The course enhances ones interest in systematic study of literature and gives inspiration from the stories of successful scientists and technocrats from India. It helps for employability.
1622	Mathematics – II	B17 BS 1202	The Fourier Transforms help in studying vibration and its effects on aeroelastic flutter of some types of Civil Engineering Structures like Bridges. Various interpolation techniques also help in data analysis for environmental modelling. It helps for employability.
1623	Mathematics – III*	B17 BS 1203	This course deals with vector calculus applications in force calculations and complex analysis of dynamic systems. Finite element methods are widely used in computer based design and analysis tasks of Civil Engineers. It helps for employability skills.
1624	Engineering Physics	B17 BS 1204	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc. It helps for employability.
1625	Computer Programming Using C	B17 CS 1201	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1626	Basic Electrical and Electronics Engineering	B17 EE 1202	This course aims at helping students understand various aspects of theorems and techniques in electrical and electronics concepts. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1627	Engineering Physics Lab	B17 BS 1206	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings. It develops skills.
1628	English Communication Skills Lab – II *	B17 BS 1208	The student practises English in various work contexts such as business meetings, phone calls, reviews, interviews etc. It develops skills in students.
1629	C Programming Lab	B17 CS 1204	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1630	Mathematics-IV	B17 BS 2101	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
1631	Strength of Materials	B17 ME 2101	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
1632	Thermodynamics	B17 ME 2102	This course deals with law of thermodynamics, thermal systems and thermodynamics relations that help in developing employability of the students.
1633	Manufacturing Process	B17 ME 2103	This course focuses on various methods of converting raw materials to finished products that help in developing employability of the students.
1634	Metallurgy & Materials Science	B17 ME 2104	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1635	Advanced Engineering Drawing	B17 ME 2105	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1636	Mechanical Engineering Lab	B17 ME 2106	This course concentrates on the characteristics of working with IC engine of various engineering applications which helps in developing skills of the students.
1637	Basic Electrical & Electronics Engineering Lab	B17 EE 2107	This course enables students to practice functioning of DC machines and load test on DC machines and KCL and KVL laws verification. The learning outcomes of the course contribute to skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1638	Auto CAD	B17 ME 2107	This course enables students to master the usage of CAD packages to make engineering drawings which help in developing employability of the students.
1639	English Proficiency-I	B17 BS 2107	The course through its systematic structure develops communicative ability, adaptability, analytical ability, personal integrity among the students. These abilities directly enhance the employability.
1640	Professional Ethics & Human Values	B17 BS 2108	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large. It helps for employability.
1641	Advanced Strength of Materials	B17 ME 2201	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
1642	Thermal Engineering	B17 ME 2202	This course focuses on orienting the applications of different types of power plants, boilers, condenser, steam nozzles and steam turbines that help in developing employability of the students.
1643	Metal Cutting & Machine Tools	B17 ME 2203	This course enables students in gaining knowledge on conventional Machining which helps in developing employability of the students.
1644	Fluid Mechanics	B17 ME 2204	This course enables students in learning the characteristics of fluids which helps in augmenting employability of the students.
1645	Mechanical Engineering Drawing	B17 ME 2205	learning the various fastenings (temporary, permanent.), Bearings, couplings, key, along with conventional representation
1646	Engineering Economics	B17 BS 2203	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
1647	Manufacturing Process Lab	B17 ME 2208	This course enables students in gaining knowledge on conventional & unconventional Machining and Properties of moulding sand that help in developing employability of the students.
1648	Strength of Materials Lab	B17 CE 2210	This course aims at applying engineering properties of materials and stress-strain relationship that help in developing employability of the students.
1649	Industry Oriented Technology Lab	B17 ME 2209	This course enables students in learning the basic CATIA skills of data and transform it into graphic drawings that help augment skills of the students.
1650	English Proficiency-II	B17 BS 2206	The course with its focus on the life stories of eminent scientists develops the reading habit among the students. It also develops intensive and extensive reading skills and allows to participate confidently in social discourses.
1651	Operations Research	B17 ME 3101	The course familiarizes the use of practice oriented mathematical applications for optimization functions in an organization, which in turn, helps students for entrepreneurship.



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1652	IC Engines & Gas Turbines	B17 ME 3102	The course imparts the knowledge of combustion in IC engines, compressors and gas turbines in engineering applications, which paves a way for employability.
1653	Kinematics of Machines	B17 ME 3103	The course concentrates on the study of the relative motion, velocity, and accelerations of the various elements in a mechanism, cam, gears & gear trains, which helps for employability.
1654	Design of Machine Elements	B17 ME 3104	The course formulates and analyzes stresses and strains in machine elements like shafts, springs etc and structures under static and/or dynamic load conditions, which helps for employment skills.
1655	Fluid Machines & Systems	B17 ME 3105	The course deals with the acquired knowledge in the field of Mechanics of Fluids & systems and related areas, which is conducive to employability.
1656	Industrial Measurements & Metrology	B17 ME 3106	The course exposes the various mechanical and electrical engineering measuring devices, and different degree of accuracy obtained from different types of instruments, which leads to employability.
1657	IC Engines & Kinematics of Machines Lab	B17 ME 3107	The course relates to practical approach to I.C Engines, four bar chain mechanisms and finding friction power in single and multi cylinder engines, which helps students for employability.
1658	Metrology Lab	B17 ME 3108	The course concentrates on calibrate linear and angular measurement, Handle vibration, displacement, force and torque measuring tools etc., which paves a way for employability.
1659	Problem Solving & Linguistic Competence	B17 BS 3101	This course aims at enabling students to learn various aspects of concepts required in framing grammatically correct sentences and identifying errors while using Standard English besides Quantitative Aptitude. This exposure gained from the course contributes to the enhancement of employability prospects of students in competitive exams.
1660	Modeling Lab	B17 ME 3109	The course aims at gaining knowledge on 2D – drawings, 3D solids and modelling skills conducive for employability.
1661	Industrial Engineering & Management	B17 ME 3201	The course focuses on acquiring full knowledge on production planning and control, material handling principles and maintenance practices, which are conducive for employability.
1662	Control Systems	B17 ME 3202	The course tries to familiarize on the basic concepts of feedback characteristics, develop mathematical models and stability of control systems, which pave a way for employability.
1663	Dynamics of Machines	B17 ME 3203	The course aims at developing the knowledge on dynamic balancing, flywheel analysis, vibrations, gyroscopic forces and moments, which help students for employability.
1664	Machine Design	B17 ME 3204	The course analyzes stresses and strains in machine elements like gears, i.c engine components, clutches, bearings, etc. under static and dynamic load conditions, which is conducive for employability.
1665	Computer Aided Design	B17 ME 3207	The course aims at learning of Computer Graphics, Solid Modeling and also in CAD software, which is helpful for employability.



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1666	Industrial Engineering Lab	B17 ME 3208	The course concentrates on learning the different methods of finding the standard time for a job and process charts used for improving the method of doing the work, which is useful for employability.
1667	Fluid Mechanics and Machinery Lab	B17 ME 3209	The course focuses on demonstrating the working principles and fundamentals of Fluid mechanics, turbines and pumps, which is conducive for employability.
1668	Employability Skills	B17 BS 3201	The course aims at imparting training on linguistic components, and arithmetic and logical reasoning essential for employability.
1669	Basic Coding	B17 BS 3202	It improves skills and prepare student to work on project as software industry. The learning outcomes of this course contribute to skillability prospects of students.
1670	Entrepreneurship #OE	B17 BS 3207	The objective of this course is to regional growth, industrial development and employment generation depends upon entrepreneurial development.
1671	Database Management System #OE	B17 CS 3213	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1672	Waste Water Management #OE	B17 CE 3207	This course is essential to the EHS engineer working in Industries to handle the effluent treatment works in Industries. The course also arms one with the knowledge of reporting effluent treatment performance to regulators.
1673	Computer Graphics #OE	B17 CS 3210	This course makes students apply the concepts related to web design ,animations etc . This understanding plays a key role in student's getting employment in revalent industries
1674	Industrial Robotics #OE	B17 ME 3205	The course focuses on the basics of design, analyses and construction of robots, which paves a way for employability and also entrepreneurship.
1675	Green Engineering Systems #OE	B17 ME 3206	The course aims at gaining the knowledge on working principles of probable sources of renewable and green energy systems.
1676	Advanced Mathematics	M17 ST 1101	Advanced Mathematics forms the basis for a candidate interested to puruse research in structural engineering. Problems which are not amenable to modelling in commercial software and existing codes have to mathematically modelling ground-up and solved through numerical methods or analytical equations. It helps for employability.
1677	Theory of Elasticity	M17 ST 1102	The course is advanced to strength of materials and it gives a deep insight into the elastic behaviour in materials and three dimentional analysis which is very much useful in analysing the complex structures. It also helps for employabilty.
	Matrix methods of		The course mainly focuses on the matrix methods in analysing the
1664	Machine Design	B17 ME 3204	The course analyzes stresses and strains in machine elements like gears,i.c engine components,clutches,bearings, etc. under static and dynamic load conditions, which is conducive for employability.
1665	Computer Aided Design	B17 ME 3207	The course aims at learning of Computer Graphics, Solid Modeling and also in CAD software, which is helpful for emplovability.



  
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1680	Advanced Structural Engineering Laboratory	M17 ST 1111	The laboratory course helps develop skills essential to a quality control engineer in project execution. It develops skills in students.
1681	Sub-Structure Design #ELE-1	M17 ST 1105	This course discusses about the soil related issues like bearing capacity, shear strength, settlement criteria of different type of soils which is very useful in designing different type of foundations to real life structures. It also helps for employability.
1682	Experimental Stress Analysis #ELE-1	M17 ST 1106	The structural engineer who intends to build novel forms with new material need to test scaled down models and capture data under different loading conditions and environmental stress. The methods taught in this course help a structural engineer in choosing the right set of data capturing systems and building model materials in conducting physical modeling tests. It helps for employability.
1683	Advanced Reinforced concrete Design #ELE-1	M17 ST 1107	This is an advanced course to the reinforced concrete design which is one of important course in civil Engineering. The load considerations and designs criterion of typical structures like grid slabs, flat slabs, fire resistant detailing etc were discussed in the course which are useful in designing the real time structures. It helps for employability.
1684	Plastic Analysis and Design #ELE-2	M17 ST 1108	The Plastic Analysis is a classic approach to steel design that was in vogue during the skyscraper craze. The course helps the structural engineer to design complex steel structures. It helps for employability.
1685	Analysis and Design of Tall Buildings #ELE-2	M17 ST 1109	This course mainly focuses on the analysis and design of tall structures like bunkers, silos, chimneys, etc. The concepts involved in the course like load considerations, shear wall behaviour, multy storey frames and later load analysis are very much useful in analysis and design of tall structures. It helps for employability.
1686	Repair and Rehabilitation of Structures #ELE-2	M17 ST 1110	This course helps the students in developing the knowledge to access the damage intensity in the structures and to provide suitable repair and rehabilitation techniques. It also helps for employability.
1687	Theory of Plates and Shells	M17ST 1201	The structural engineer increasingly needs to realise the whims of deconstructivist architects whose forms and elements do not have references in design codes. The theoretical underpinnings of plates and shells arms him with the knowledge to handle such design challenges in his career. It also helps for employability.
1688	Finite Element Methods of Analysis	M17ST 1202	The course equips the structural engineer with finite element approaches in analysing complex geometries of structures under complex loading conditions. It also helps for employability.
1689	Earthquake Resistant Design of Structures	M17ST 1203	This course develops the knowledge on engineering seismology and seismic codal provisions which helps in designing the earthquake resistant structures. It also helps for employability.
1690	Structural Stability	M17ST 1204	The structural engineer needs to ascertain the behaviour of his designed buildings under different loading conditions during its serice life, incuding wind, wave and seismic loads. This course equips with knowledge to assess the stability of structures under possible extreme conditions. It also helps for employability.



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1691	Computer applications in structural Engineering Lab	M17 ST 1211	The Engineer gains experience in solving design and analysis problems using programming and specific tools such as spreadsheets and software packages. These skills are essential to become a designer or consultant. It develops skills in students.
1692	Reliability Analysis and Design #ELE-3	M17 ST 1205	The course helps use statistical tools in gauging the performance of individual building elements under loads and the ensemble of a variety of elements. It also helps for employability.
1693	Prestressed Concrete #ELE-3	M17 ST 1206	The course provides specialised knowledge in concrete structures design using pre-stressed technology. This type of design is increasingly used in large scale infrastructure projects for saving costs, time and increasing reliability and performance of the structures. It also helps for employability.
1694	Optimization Techniques #ELE-3	M17 ST 1207	This course discusses about the usage of various optimization techniques like linear and non linear programming, quadratic programming in solving various constructional and design problems. It also helps for employability.
1695	Industrial Structures #ELE-4	M17 ST 1208	This course mainly imparts knowledge on requirements of industrial structures, materials used and construction techniques which will be helpful in analysis and design of industrial steel structures and communication towers etc. It also helps for employability.
1696	Bridge Engineering #ELE-4	M17 ST 1209	This course focuses on the design of different types of bridges and also creates awareness on the bridge bearings and their uses that are used in real life bridges. It also helps for employability.
1697	Earth Retaining Structures #ELE-4	M17 ST 1210	The course is offers specialised knowledge to Structural Engineer tasked with stabilising soils and hill sides in construction and road projects in challenging topographies. The Border Roads Organisation needs such specialised skills for their work. It also helps for employability.
1698	Project Work Part-I	M17 ST 2103	The preliminary thesis work gives an opportunity at identifying the problem, formulation of analysis and design. The preliminary work also gives an opportunity to identify the existing solutions through systematic literature review and design reviews.
1699	Project Work Part-II	M17 ST 2202	The final thesis work offers an opportunity to test ones mastery of design, analysis, communication, team work and other skills that are expected at the workplace.
1700	Advanced Data structures and Algorithm Analysis	M17 CST 1101	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhance their skills in development of software and this ability of design plays a key role in students' getting employment in relevant industries.
1701	Mathematical Foundations of Computer Science	M17 CST 1102	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1702	Computer Organization and Architecture	M17 CST 1103	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU, Memory and I/O organizations, and these will help the students to improve their skills
1703	Database Management Systems	M17 CST 1104	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1704	Advanced Operating Systems	M17 CST 1105	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
1705	Data Warehousing and Data Mining	M17 CST 1106	This course makes students learn the data warehousing concepts related to schemas, attributes for storing and handling different data formats. Data Mining concepts helps in extracting novel, useful, correct and easily understandable patterns/knowledge from data. This understanding plays a key role in students' getting employment in software industry.
1706	CST LAB-1	M17 CST 1107	This helps the students to understand the design aspects of operating system and linear and non-linear data structures.
1707	Cyber Security *	M17CST 1201	With the emergence of e-Commerce and various other websites, data security is the most critical issue in ensuring safe transmission of information through the internet. As the world is embracing more digital advancements, network security issues are becoming increasingly important. This course helps students to implement security protocols, this will play a key role in students getting employment in relevant industries.
1708	Computer Networks	M17CST 1202	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
1709	Big Data Analytics	M17CST 1203	This course deals with concepts like hadoop architecture,pig and hive which will help them gain better employability opportunities and build a better career
1710	Machine Learning	M17CST 1204	This course makes students to conceptualize the concepts related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in student's getting employment in relevant industries.
1711	CST LAB 3	M17CST 1213	This helps the students to get knowledge about SDLC and develop the skills for building a software project.
1712	CST LAB 4	*M17CST 1214	This helps the students to apply principles of network and computer security.
1713	Software Engineering # ELE-1	M17CST 1205	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneurship skills as almost every software includes database and software analysis & design . It is also useful to acquire Software Engineer jobs.



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1714	Artificial Intelligence # ELE-1	M17CST 1206	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks. these skills will play a key role in student's getting employment in relevant industries.
1715	Compiler Design # ELE-1	M17CST 1207	This course aims at helping students to learn the development of compiler for particular language and how to write the code effectively and efficiently. The exposure gained from the course contributes to the employability of students in relevant industries.
1716	Embedded Systems # ELE-1	M17CST 1208	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
1717	Image Processing # ELE-II	M17CST 1209	This course helps the students learn the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
1718	Parallel Algorithms # ELE-II	M17CST 1210	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
1719	Cloud Computing # ELE-II	M17CST 1211	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence. This understanding plays a key role in student's getting employment in relevant industries
1720	Mobile Computing # ELE-II	M17CST 1212	This course enables the students to understand state-of-the-art topics in wireless networking and mobile computing. This understanding plays a key role in student's getting employment in relevant industries
1721	Project Work Part-I	M17 CST 2103	This course includes a Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work
1722	Project Work Part-II	M17 CST 2202	This course includes a Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work
1723	Detection & Estimation Theory	M17 CS 1101	This course aims at enabling students to learn various aspects of Signal Detection, Estimation, different Hypotheses in detection and estimation problems. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1724	Digital Data Communications	M17 CS 1102	This course makes students learn the concepts related to Different modulation techniques to improve the bandwidth and their properties. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1725	Coding Theory & Applications	M17 CS 1103	This course makes students learn the concepts related to information, entropy, mutual information and Shannon's fundamental limits, theorems and Error correcting codes. This understanding plays a key role in students' getting employment in relevant industries.
1726	Advanced Digital Signal Processing	M17 CS 1104	This course helps students learn the concepts related to design and implementation techniques of digital filter (both FIR & IIR) . This understanding plays a key role in students' getting employment in relevant industries.
1727	Optical & Data Communications Laboratory	M17 CS 1111	This course helps students learn the concepts related to optical fiber and applications in both analog & digital optical communication systems. This understanding plays a key role in students' getting employment in relevant industries.
1728	Radar Signal Processing #ELE-1	M17 CS1105	This course helps students learn the concepts related to Derivation of Radar range and Design of matched filter for different noises. This understanding plays a key role in students' getting employment in relevant industries.
1729	Optical Communication Technology #ELE-1	M17 CS 1106	This course helps students learn the concepts related to designing and operating principles of modern optical communication systems and networks. This understanding plays a key role in students' getting employment in relevant industries.
1730	Advanced Computer Networks #ELE-1	M17 CS 1107	This course enables students to learn the concepts related to the principles of computer networks and Congestion and Quality of Service. This understanding plays a key role in students' getting employment in relevant industries.
1731	Wireless LANs and PANs #ELE-2	M17 CS 1108	This course makes students learn the concepts related to different generations of mobile networks and wireless networks. This understanding plays a key role in students' getting employment in relevant industries.
1732	Mobile Computing Technologies #ELE-2	M17 CS1109	This course enables students to learn the concepts related to WAP and Wireless LAN. This understanding plays a key role in students' getting employment in relevant industries.
1733	Network Security & Cryptography #ELE-2	M17 CS 1110	This course makes students learn the concepts related to cryptography, authentication and emerging security standards. This understanding plays a key role in students' getting employment in relevant industries.
1734	RF Circuit Design	M17 CS 1201	This course helps students to learn the concepts related to the design and analysis of single and multiport networks and RF Filters. This understanding plays a key role in students' getting employment in relevant industries.
1735	Wireless Communications and Networks	M17 CS 1202	This course enables students to learn the concepts related to functioning of wireless communication system and evolution of different wireless communication systems and standards. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1736	Image and Video Processing	M17 CS 1203	This course helps students to learn the concepts related to digital image processing and video processing. This understanding plays a key role in students' getting employment in relevant industries.
1737	Software Defined Radio	M17 CS 1204	This course aims at enabling students to learn various aspects of the fundamental radio components, software architecture, SDR, and future communication systemsn problems. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1738	Advanced Communications Laboratory	M17 CS 1211	This course makes students learn the concepts related to measurement of bit error rate, Hamming distance and coding techniques and calculation efficiency of spread spectrum techniques. This understanding plays a key role in students' getting employment in relevant industries.
1739	Soft Computing Techniques #ELE-3	M17CS1205	This course enables students learn the concepts related to soft computing basics and c implementation details on Artificial Neural Networks. This understanding plays a key role in students' getting employment in relevant industries.
1740	Smart Antennas #ELE-3	M17CS1206	This course enables students learn the concepts related to smart antennas, types of arrays, adaptive processing techniques, and different diversity combining techniques. This understanding plays a key role in students' getting employment in relevant industries.
1741	Secure Communications #ELE-3	M17CS1207	This course aims at helping students learn various aspects of Security, data modelling, and handling security risks. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1742	Optical Networks #ELE-4	M17CS1208	This course makes students learn the concepts related to Various components of optical networks and Multiplexing techniques and fibre characteristics. This understanding plays a key role in students' getting employment in relevant industries.
1743	Digital Signal Processors and Architectures #ELE-4	M17CS1209	This course enables students to understand the concepts related to -basic DFT, FFT and rate conversion algorithms dynamic range and sources of errors in DSP systems.This understanding plays a key role in students' getting employment in relevant industries.
1744	Internet Of Things #ELE-4	M17CS1210	This course enables students to understand the concepts related to hands-on project development and innovative applications of IoT technologies.This understanding plays a key role in students' getting employment in IOT based industries.
1745	Project Work Part-I	M17 CS 2103	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1746	Project Work Part-II	M17 CS 2202	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1747	Advanced Power system Operation and control	M17 PS 1101	This course focuses on employability of students by making them understanding Economical operation using thermal plants and combined hydo thermal plants
1748	HVDC Transmission	M17 PS 1102	This course focuses on employability of students by making them understand HVDC transmission techniques.
1749	Reactive Power Compensation & Management	M17 PS 1103	This course focuses on employability of students by making them understand Deals with role of Reactive Power Compensation at electrical traction systems and arc furnace.
1750	Analysis of Power Electronics Converters	M17 PS 1104	This course focuses on employability of students by making them understand Deals with control principle of AC -AC conversion with suitable devices
1751	Simulation Laboratory	M17 PS 1113	This course enables students to practice usage of MATLAB to electrical problems like load flow solution, fault analysis .The learning outcomes of the course contribute to skill development.
1752	Modern Control Theory #ELE-1	M17 PS1105	This course focuses on employability of students by making them understand analysis and stability of continous time invariant systems
1753	Power System Security #ELE-1	M17 PS1106	This course focuses on employability of students by making them understand with Real time control of power system
1754	Optimization Techniques #ELE-1	M17 PS1107	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes . of the course contribute to employability.
1755	Generation and Measurement of High Voltage #ELE-1	M17 PS1108	This course makes students understand the measurement techniques for high AC, DC and impulse current The learning outcomes of the course contribute to employability.
1756	Renewable Energy Systems #ELE-2	M17 PS1109	This course focuses on employability of students by making them understand wind, solar energy systems
1757	Advanced Digital Signal Processing #ELE-2	M17 PS1110	This course focuses on employability of students by making them understand the design of digital filtershelps for employability
1758	Power System. Reliability #ELE-2	M17 PS1111	This course makes students understand the with reliability analysis of generation . The learning outcomes of the course contribute to employability.
1759	Electrical Distribution Systems #ELE-2	M17 PS1112	This course focuses on employability of students by making them understanddesign of substation and distribution system
1760	Power system Dynamics & stability	M17 PS 1201	This course makes students understand the concept of dynamics, stability, excitation and SMIB of power system. The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1761	Real Time Control of Power Systems	M17 PS 1202	This course makes students understand the the significance of voltage and stability analysis, importance of security . The learning outcomes of the course contributes to employability
1762	Artificial Intelligence Techniques	M17 PS 1203	This course makes students understand the course provides GA in optimization,Fuzzy and ANN architecture The learning outcomes of the course contribute to employability.
1763	Flexible AC Transmission Systems	M17 PS 1204	This course makes students understand the differnet FACTS controller , SVC,TCSC and applications. The learning outcomes of the course contributes to employability.
1764	Power system laboratory	M17 PS 1213	This course enables students to practice Determination of Sequence Impedence of an Alternator, measurement of ABCD parameters of transmission line .The learning outcomes of the course contribute to skill development.
1765	Smart Grid Technologies #ELE-3	M17PS1205	This course makes students understand about knowledge of microgrids and distributed energy systems. The learning outcomes of the course contributes to employability.
1766	Power Quality #ELE-3	M17PS1206	This course makes students understand ooltage sag, swell, harmonics in power system . The learning outcomes of the course contribute to employability.
1767	Advanced Power System Protection #ELE-3	M17PS1207	This course makes students understand thedifferent protection schemes for electrical devices. The learning outcomes of the course contribute to employability.
1768	EHVAC Transmission #ELE-3	M17PS1208	This course makes students understand the calculation of field effects on EHV and UHVAC The learning outcomes of the course contribute to employability.
1769	Power System Deregulation #ELE-4	M17PS1209	This course makes students understand the nalysing various types of electricity market operation and control issues using new mathematical model The learning outcomes of the course contribute to employability.
1770	High Voltage Testing Techniques #ELE-4	M17PS1210	This course makes students understand non destructive testing methods. The learning outcomes of the course contribute to employability.
1771	Power System Transients #ELE-4	M17PS1211	This course makes students understandthe effect of over voltages, lighting in power systems The learning outcomes of the course contribute to employability.
1772	Voltage Stability #ELE-4	M17PS1212	This course makes students understand reactive power compensation and voltage control . The learning outcomes of the course contribute to employability.
1773	Project Work Part-I	M17 PS 2103	Skill development
1774	Project Work Part-II	M17 PS 2202	Skill development
1775	Advanced Data Structures	M17 IT 1101	This course is a comprehensive look at the ideas, analysis, and implementation details of data structures as a specialized topic in applied algorithms. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1776	Distributed Systems	M17 IT 1102	This course is A distributed system is a system whose components are located on different networked computers, which communicate and coordinate their actions by passing messages to one another from any system. The learning outcomes of this course contribute to employability prospects of students.
1777	Software Requirements And Estimation	M17 IT 1103	This course provides Software Requirements and Estimation provides software professionals the information they need to address requirements engineering and estimation .The learning outcomes of this course contribute to employability prospects of students.
1778	Data Mining And Knowledge Discovery	M17 IT 1104	This course provides info about technology that aggregates structured data from one or more sources so that it can be compared and analyzed rather than transaction processing .The learning outcomes of this course contribute to employability prospects of students.
1779	Advanced Computer Networks	M17 IT 1105	This course enhances advanced Internet procedures and technologies are described which support an efficient, effective and secure interconnection of both distributed applications and related structured data..The learning outcomes of this course contribute to employability prospects of students.
1780	Web Technologies	M17 IT 1106	This course gives info about Web Technology surefers to the various tools and techniques that are utilized in the process of communication between different types of devices over the internet .The learning outcomes of this course contribute to employability prospects of students.
1781	IT LAB1	M17 IT 1107	This course helps develop the skills in different programming skills. The learning outcomes of this course contribute to skill development prospects of students.
1782	Advanced Unix Programming	M17 IT 1201	This course describes the application programming interface of the UNIX family of operating systems..The learning outcomes of this course contribute to employability prospects of students.
1783	Cyber Security	M17 IT 1202	Cyber security gives info about the application of technologies, processes and controls to protect systems, networks, programs, devices and data from cyber attacks..The learning outcomes of this course contribute to employability prospects of students.
1784	Big Data Analytics	M17 IT 1203	Big data analytics courses focuses on the advanced analytic techniques against large data sets, including structured/unstructured data and streaming/batch data .The learning outcomes of this course contribute to employability prospects of students.
1785	Cloud Computing	M17 IT 1204	This course focuses on availability of computer system resources, especially data storage and computing power, without direct active management by the user..The learning outcomes of this course contribute to employability prospects of students.
1786	IT LAB2	M17 IT 1213	This course helps develop the skills in different programming skills. The learning outcomes of this course contribute to skill development prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1787	Adhoc & Sensor Networks #ELE-1	M17 IT 1205	Ad hoc networks course focuses on multi-hop networks consisting of wireless autonomous hosts .The learning outcomes of this course contribute to employability prospects of students.
1788	Semantic Webservices #ELE-1	M17 IT 1206	Semantic services course helps us to learn components of the semantic web because they use markup which makes data machine-readable in a detailed and sophisticated way.The learning outcomes of this course contribute to employability prospects of students.
1789	Principles Of Programming Languages #ELE-1	M17 IT 1207	This course helps to gain experience with the paradigms To understand concepts of syntax, translation, abstraction, and implementation..The learning outcomes of this course contribute to employability prospects of students.
1790	Internet Of Things #ELE-1	M17 IT 1208	This course describes physical objects with sensors, processing ability, software, and other technologies that connect and exchange data with other devices and systems over the Internet .The learning outcomes of this course contribute to employability prospects of students.
1791	Machine Learning #ELE-2	M17 IT 1209	This course provides inquiry devoted to understanding and building methods that 'learn', that is, methods that leverage data to improve performance on some set of tasks.The learning outcomes of this course contribute to employability prospects of students.
1792	Information Retrieval System #ELE-2	M17 IT 1210	An information retrieval (IR) system is a course which has set of algorithms that facilitate the relevance of displayed documents to searched queries.The learning outcomes of this course contribute to employability prospects of students.
1793	Image Processing & Pattern Recognition #ELE-2	M17 IT 1211	Image Processing and Pattern Recognition covers major applications in the field, including optical character recognition, speech classification, medical imaging, paper currency recognition, classification reliability techniques, and sensor technology..The learning outcomes of this course contribute to employability prospects of students.
1794	Software Testing Methodologies #ELE-2	M17 IT 1212	Software testing methodologies are the various strategies or approaches used to test an application to ensure it behaves and looks as expected..The learning outcomes of this course contribute to employability prospects of students.
1795	Project Work Part-I	M17 IT 2103	This course develops the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
1796	Project Work Part-II	M17 IT 2202	This course develops the skills in different programming skills.The learning outcomes of this course contribute to skill development prospects of students.
1797	Industrial Robotics	M17 CAD 1101	The course deals with the construction and simulation of robots and their application in different areas, which, in turn, help for employability.
1798	Computer Aided Manufacturing	M17 CAD 1102	The course concentrates on the Integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve highest productivity, which helps students for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1799	Special Manufacturing Processes	M17 CAD 1103	It concerns the design of computerised production layouts to easily adapt to changes in the type and quantity of the product being manufactured, which holds its relevance to entrepreneurship.
1800	Geometric Modelling	M17 CAD 1104	The course deals with the integration of computers and manufacturing tools to the realworld image procesing problems in industrys so as to achieve the highest productivity, which relates to employability.
1801	Computer Aided Design Lab	M17 CAD 1111	The course focuses on learning the use of CAD packages to make engineering drawings, which makes a way for students to gain employability skills.
1802	Computational Methods in Engineering #ELE-1	M17 CAD 1105	The course focuses on the application of complex mathematical solutions to solve real world problems in industry in order to achieve highest productivity, which, in turn, makes a way for employability.
1803	Theory of Elasticity & Plasticity #ELE-1	M17 CAD 1106	The course concerns the design of mathematical models to solve complex 2D&3D sresses and strains in real world engineering applications in order to devolop highest realiable engineering systems, which finally helps students for employability.
1804	Nano Technology #ELE-1	M17 CAD 1107	The course concentrates on providing various material characterisation tequiniques to enhance material properties of various engineering systems, which helps for employability finally.
1805	Design for Manufacturing & Assembly #ELE-2	M17 CAD 1108	The course deals with the integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve the highest productivity, which paves a way for enterpreneurship.
1806	Mechatronics #ELE-2	M17 CAD 1109	The course aims at the application of electronics and mechanics to solve various engineering problems to become industry ready, which enhances employability skills.
1807	Computer Aided Process Planning #ELE-2	M17 CAD 1110	The course throws light on the design of computerised production layouts to easily adapt to changes in the type and quantity of the product being manufactured, which helps for employability skills.
1808	Modeling & Simulation of ManufacturingSystems	M17 CAD 1201	The course concentrates on the integration of computer aided manufacturing tools to the real world manufacturing methods in order to achieve the highest productivity, which helps for enterpreneurship.
1809	Optimization & Reliability	M17 CAD 1202	The course aims at the application of complex mathematical solutions to solve real world problems in indutry in order to achieve the highest productivity, which enhances enterpreneurship.
1810	Computer Graphics	M17 CAD 1203	The course concentrates on the Integration of computers and manufacturing tools to the realworld image procesing problems in the industry so as to achieve the highest productivity, which paves a way for employability for students.
1811	Finite Element Methods	M17 CAD 1204	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in indutrial & engineering systems. It, thus, helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1812	Computer Aided Manufacturing Lab	M17 CAD 1211	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become industry ready, which develops skill for the students.
1813	Quality Engineering in Manufacturing #ELE-3	M17 CAD 1205	The course focuses on the integration of computer aided manufacturing tools to the realworld manufacturing methods in order to achieve the highest productivity, which enhances employability.
1814	Mechanical Vibrations #ELE-3	M17 CAD 1206	The course concentrates on understanding the mechanical behaviour of various composite materials that are used in various engineering and industrial applications, which has a direct bearing on employability skills.
1815	Concurrent Engineering #ELE-3	M17 CAD 1207	The course aims at designing and developing products in which the different stages run simultaneously rather than consecutively in order to achieve highest productivity in manufacturing processes. This makes a way for employability skills.
1816	Mechanics & Manufacturing Methods of Composites #ELE-4	M17 CAD 1208	The course aims at designing and developing products in which the different stages run simultaneously rather than consecutively in order to achieve highest productivity in manufacturing processes. This makes a way for employability skills.
1817	Materials Technology #ELE-4	M17 CAD 1209	The course concentrates on understanding various material characterisation techniques to enhance material properties of various engineering systems, which enhances employability skills.
1818	Intelligent Manufacturing Systems #ELE-4	M17 CAD 1210	The course deals with the integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve highest productivity, which relates to employability skills finally.
1819	Project Work Part-I	M17 CAD 2103	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
1820	Project Work Part-II	M17 CAD 2202	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
1821	English	B19 HS 1101	The student develops LSRW skills in English based on classic english literature. It also helps for employability.
1822	Mathematics-I	B19 BS 1101	The course M-1 enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
1823	Engineering Physics	B19 BS 1103	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc.,



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1824	Engineering Mechanics	B19 CE 1101	This is the defining course of Civil Engineering which lays down the framework for studying the macroscopic behaviour of bodies under different types and magnitudes of forces. The other design courses specific to material type building on this course. This course is the essential ground for all Civil Engineering.
1825	Engineering Drawing	B19 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1826	Engineering Physics Lab	B19 BS 1106	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings.
1827	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1828	Engineering Exploration Project	B19 CE 1102	The course gives an early exposure to the nature of engineering and practical problem solving by understanding the intent, content, constraints of resources, time and human elements in solving a problem.
1829	Mathematics-II	B19 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
1830	Mathematics-III	B19 BS 1202	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
1831	Engineering Chemistry	B19 BS 1204	It is a course that helps understand the material behaviour and quality of building materials, water, polymers under service and environmental stress conditions. These aspects are essential knowledge for structural, water resources and environmental professionals.
1832	Programming for Problem Solving using C	B19 CS 1201	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1833	Computer Aided Engineering Drawing	B19 CE 1201	Computer Aided Drafting is an essential skill of Civil Engineer and this course offers ample opportunity to hone this skill in the latest industry preferred software such as Autodesk AutoCAD.
1834	Engineering Chemistry Lab	B19 BS 1207	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1835	Communication Skills Lab	B19 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1836	Programming for Problem Solving using C Lab	B19 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1837	Workshop Practice Lab	B19 ME 1205	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1838	Mathematics-IV	B19 BS 2102	This course introduces to Probability and Statistics which serve as basis for data analysis and decision making in design processes of complex system in Environmental Engineering.
1839	Mechanics of Solids	B19 CE 2101	The student gauges the limits of loading various shapes and materials used in Civil Engineering Structures. Knowledge of these concepts is essential to later design courses.
1840	Fluid Mechanics	B19 CE 2102	This course covers the mathematical concepts and frameworks used in designing hydrostatic and hydrodynamic systems used in Civil Engineering such as water retaining structures and conveying structures such as channels and pipes.
1841	Building Materials, construction and Planning	B19 CE 2103	This course arms the Civil Engineer with knowledge of building materials and their specific applications in various building and infrastructure projects.
1842	Surveying	B19 CE 2104	This course is basic numeracy for a Civil Engineer who is expected to map the reality (surveying) and transform the reality (Design and Build) and again repeat this cycle time and again as societal needs keep evolving. It helps for employability.
1843	Environmental Engineering-I	B19 CE 2105	The course arms a public health engineer with knowledge of water sourcing, treatment, storage and supply for public works. The course prepares one for treatment of water to Indian potable water standards. It helps for employability.
1844	Surveying Field Work	B19 CE 2106	This laboratory helps develop the practical skill of measuring land and development features such as roads, canals, buildings etc., and mapping the same to scale for use in planning and design of infrastructure.
1845	Strength of Materials Lab	B19 CE 2107	This laboratory develops skills necessary for understanding failure of materials and quality of construction materials. These skills are essential for a structural design engineer.



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## SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE (A)

China Amiram, Bhimavaram, Andhra Pradesh- 534204

S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1846	Engineering Geology	B19 CE 2201	Construction Engineers (building materials), Geotechnical Engineers (soil identification), Water Resource Engineers (Ground Water), Transportation Engineers (route alignments) will use Geological knowledge in their everyday jobs. Remote Sensing tools and Geophysical Methods are used in site investigations for prospecting, minerals, rocks, ground water, geological formations (faults, fractures etc.,)
1847	Structural Analysis-I	B19 CE 2202	The course covers the analysis and design of various building elements and frames used in buildings, bridges and industrial structures using popular methods. It is an essential skill in design of structures.
1848	Concrete Technology	B19 CE 2203	This is an essential course for a Civil Engineer to work in Building Technology, specific to concrete and its application in contemporary industry.
1849	Hydraulics and Hydraulic Machinery	B19 CE 2204	The course arms the Hydraulic Engineer with knowledge of designing pipes and channels experiencing laminar and turbulent flows. The course also deals with knowledge of lift, drag and propulsion which are essential for studying effects on wind on structures. It helps for employability.
1850	Environmental Engineering-II	B19 CE 2205	This course is essential for public health engineers handling sewerage and sewage treatment works. The course equips one with theoretical knowledge of the treatment units and their applications in specific stages of treatment plant. It helps for employability.
1851	Engineering Geology Lab	B19 CE 2206	The student develops the skill of material identification from Rocks and Minerals. The student is also able to visualise various geological features such as fold, faults using concepts of strike and dip.
1852	Fluid Mechanics and Hydraulic Machinery Lab	B19 CE 2207	The student develops the skill of testing pump characteristics, drawing performance curves for vanes and turbines. The student also verifies various equations used for describing flow conditions. It develops skills in students.
1853	Concrete Lab	B19 CE 2208	The students develop the skill of mixing building materials to prepare concrete and mortars of various grades to achieve desired strength characteristics. The skills are indispensable for Quality control engineers that work at project sites and Ready Mix Concrete Plants.
1854	Professional Ethics and Human Values	B19 MC 2202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
1855	English	B19 HS 1101	The student develops LSRW skills in English based on classic English literature. It also helps for employability.
1856	Mathematics-I	B19 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1857	Mathematics-II	B19 BS 1102	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
1858	Applied Chemistry	B19 BS 1105	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1859	Computer Fundamentals & Problem Solving Using C	B19 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1860	Applied Chemistry Lab	B19 BS 1108	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1861	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speakings skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1862	Computer Fundamentals & Problem Solving Using C Lab	B19 CS 1104	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1863	Mathematics-III	B19 BS 1202	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
1864	Applied Physics	B19 BS 1203	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
1865	Digital Logic Design	B19 CS 1202	This course enables students to acquire knowledge and understanding of the design of digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits which helps them become employable.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1866	Basic Data Structures and Python Programming	B19 CS 1203	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.
1867	Engineering Drawing	B19 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1868	Applied Physics Lab	B19 BS 1206	The experiments in Applied Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1869	Basic Data Structures and Python Programming Lab	B19 CS 1205	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.
1870	Communication Skills Lab	B19 HS 1203	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1871	Engineering Exploration Project	B19 CS 1206	This course helps the students develop problem solving methodology and understand the real world applications logically. This understanding helps the students gain better job opportunities
1872	Mathematical Foundations of Computer Science	B19 CS 2101	This course enables students learn the concepts related to mathematics foundation for computer applications and graph theory with applications to engineering. This understanding plays a key role in student's employment in relevant industries.
1873	Software Engineering	B19 CS 2102	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneurship skills as almost every software includes database and software analysis & design. It is also useful to acquire Software Engineer jobs.
1874	Object Oriented Programming	B19 CS 2103	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1875	Advanced Data Structures	B19 CS 2104	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1876	Computer Organization	B19 CS 2105	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU, Memory and I/O organizations, and these will help the students to improve their employability skills
1877	Object Oriented Programming Lab	B19 CS 2106	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1878	Advanced Data Structures Lab	B19CS 2107	This course makes students develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
1879	Professional Ethics and Human Values	B19MC 2101	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
1880	Probability and Statistics	B19 BS 2202	Use mathematics and statistics to help develop solutions to practical problems. The learning outcomes of this course contribute to employability prospects of students.
1881	Advanced Java Programming	B19 CS 2201	This course enables students to apply the concepts related to Swings, Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of designing plays a key role in students getting employment in relevant industries.
1882	Operating Systems	B19 CS 2202	This course helps students learn the concepts related to cpu scheduling, memory management etc. This understanding plays a key role in students getting employment in relevant industries
1883	Data Base Management Systems	B19 CS 2203	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1884	Design and Analysis of Algorithms	B19 CS 2204	This course aims at helping the students understand the different paradigms for problem solving and gives the knowledge for analysing the algorithms for solving different types of problems in Computer Science. This exposure gained from the course contributes to the development of skills needed for problem solving.
1885	Advanced Java Programming Lab	B19 CS 2205	This course enables students to apply the concepts related to Swings, Servlets, and JSP. This understanding and development of applications will enhance students skills to design software, and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1886	UNIX Operating Systems Lab	B19 CS 2206	This course enables students learn the concepts related to the areas of UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. This understanding plays a key role in student's employment in relevant industries.
1887	Data Base Management Systems Lab	B19 CS 2207	This course includes database analysis & design in addition of its fundamentals and this enables their technical competencies to acquire Software Engineer jobs and database administrator jobs.
1888	Mathematics-I	B19 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
1889	Mathematics-II	B19 BS 1102	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.
1890	Applied Chemistry	B19 BS 1105	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1891	Programming for Problem Solving using C	B19 CS 1102	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1892	Basic Electronics	B19 EC 1101	This course aims at enabling students to understand various fundamental aspects of the semiconductor physics of the intrinsic and extrinsic semiconductors and basics of various diodes. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1893	Applied Chemistry Lab	B19 BS 1108	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1894	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speakings skills. Role play of interviews, debates, group discussions help improve skill and confidence of students



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1895	Programming for Problem Solving using C Lab	B19 CS 1105	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1896	English	B19 HS 1201	It is a bridge course for freshman coming from diverse school boards, media of instruction and familial backgrounds in standardising Listening, Speaking, Reading and Writing skills in General English language. It helps for employability skills.
1897	Mathematics-III	B19 BS 1202	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
1898	Applied Physics	B19 BS 1203	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
1899	Basic Electrical Engineering	B19 EE 1202	This course makes students understand regarding construction and operation of DC machines, introduction to AC circuits, synchronous machines and Transformers . The learning outcomes of the course contribute to employability.
1900	Engineering Drawing	B19 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1901	Applied Physics Lab	B19 BS 1206	The experiments in Applied Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1902	Communication Skills Lab	B19 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1903	Basic Electrical Engineering Lab	B19 EE 1204	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer and load test on slip ring induction motor . The learning outcomes of the course contribute to skill development.
1904	Electronics Workshop practice	B19 EC 1201	This course enables students to learn the concepts related to introduction of electronic hardware systems and provides hands-on training with familiarization, identification, testing, assembling, and dismantling. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1905	Engineering Exploration Project	B19 EC 1202	This course aims at enabling students to learn various aspects of Build mindsets & foundations essential for designers and Human-Centered Design methodology and understand their real-world applications. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1906	Electronic Devices and Circuits	B19 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1907	Switching Theory and Logic Design	B19 EC 2102	This course aims at helping students to understand various aspects of number systems and minimization of Boolean functions. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1908	Signals and Systems	B19 EC 2103	This course aims at enabling students to learn various aspects of fundamental techniques associated with signals and systems. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1909	Probability Theory and Random Processes	B19 EC 2104	This course enables students to understand the concepts related to axiomatic formulation of modern probability theory. This understanding plays a key role in students' getting employment in relevant industries.
1910	Network Analysis	B19 EE 2105	This course makes students analyze DC transients, two port network theorems. The learning outcomes of the course contribute to employability.
1911	Data Structures	B19 CS 2108	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1912	Electronic Devices and Circuits - Lab (with Simulation)	B19 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1913	Switching Theory and Logic Design - Lab (with Simulation)	B19 EC 2106	This course makes students apply conceptualize the concepts related todigital electronics, Boolean algebra, and able to design the simple logic circuits and test/verify the functionality of the logic circuits.This understanding plays a key role in students' getting employment in relevant industries.
1914	Electronic Circuit Analysis	B19 EC 2201	This course makes students apply the concepts related to the classification of feedback amplifiers and analyze them. This understanding plays a key role in students' getting employment in relevant industries.



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1915	Electromagnetic Waves and Transmission Lines	B19 EC 2202	This course aims at enabling students to learn various aspects of static electric field, steady magnetic field and time varying electromagnetic fields in real time applications. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1916	Analog Communications	B19 EC 2203	This course aims at helping students to understand various fundamental concepts of communication system. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1917	Computer Architecture and Organization	B19 EC 2204	This course aims at enabling students to learn various fundamental blocks of a Digital Computer. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
1918	OOPs through JAVA	B19 CS 2209	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1919	Management and Organizational Behavior	B19 HS 2201	This course resembles Organizational behavior management (OBM) applies behavioral principles to people in business, industry, government and human service
1920	Electronic Circuit Analysis - Lab (with Simulation)	B19 EC 2205	The experiments carried out in this lab consolidate students' understanding of the steps involved in Observing the amplitude and frequency responses of negative feedback amplifiers and RC coupled amplifiers. The knowledge gained in this lab is essential to students in getting employment in related industries.
1921	Analog Communications - Lab (with Simulation)	B19 EC 2206	The experiments carried out in this lab consolidate student's understanding of the steps involved in the various Analog communication modules. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
1922	English	B19 HS 1101	The student develops LSRW skills in English based on classic english literature. It also helps for employability.
1923	Mathematics-I	B19 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
1924	Applied Physics	B19 BS 1104	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1925	Fundamentals of Computers	B19 CS 1103	This course enables the students to acquire essential skills needed for enhancing their skill related basic operations that a computer performs are input, storage, processing, output and control
1926	Engineering Drawing	B19 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1927	Applied Physics Lab	B19 BS 1107	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
1928	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1929	Electrical Engineering Workshop	B19 EE 1102	This course relates to providing knowledge on Electrical wiring and measurement of Resistance using the color-coding method.
1930	Mathematics-II	B19 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
1931	Mathematics-III	B19 BS 1202	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
1932	Applied Chemistry	B19 BS 1205	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1933	Programming for Problem Solving using C	B19 CS 1201	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1934	Circuit Theory	B19 EE 1201	This course enables students to understand the concepts related to electrical circuits DC circuits, AC circuits. The learning outcomes of the course contribute to employability.
1935	Applied Chemistry Lab	B19 BS 1208	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1936	Communication Skills Lab	B19 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1937	Programming for Problem Solving using C Lab	B19 CS 1204	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1938	Engineering Exploration Project	B19 EE 1205	This course enables students to understand the concepts related to Design thinking of Robotics, IOT,S mechanical and electrical tools. The learning outcomes of the course contribute to employability.
1939	Electronic Devices and Circuits	B19 EC 2101	This course aims at enabling students to learn various aspects of semiconductor diodes, rectifier circuits using diodes, FETS. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
1940	Mathematics-IV	B19 BS2102	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
1941	Electrical Measurements and Instrumentation	B19 EE 2101	This course focuses on employability of students by making them understand the concepts related Analog measurements, RL,C measurement using bridges, CRO.
1942	Network Analysis and Synthesis	B19 EE 2102	This course makes students analyze DC transients, two port network. The learning outcomes of the course contribute to employability.
1943	Electro Magnetic Field Theory	B19 EE 2103	This course focuses on the employability of students by making them learn basic concepts related to the effects of electrostatics and magnetostatics.
1944	Data Structures	B19 CS 2108	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1945	Networks Lab	B19 EE 2104	This course enables students to practice verification of various theorems. The learning outcomes of the course contribute to skill development.
1946	Electronic Devices and Circuits Lab (with Simulation)	B19 EC 2105	This course aims at helping students understand the concepts related to electronic and electrical components, and multisim software to know the characteristics of basic electronic devices. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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1947	Electrical Machines- I	B19 EE 2201	This course makes students understand regarding construction and operation of DC machines and Transformers . The learning outcomes of the course contribute to employability.
1948	Digital Electronics and Logic Design	B19 EE 2202	This course focuses on employability of students by making them understand boolean algebra and different combinational and sequential logic circuits.
1949	Signals and Systems	B19 EE 2203	This course makes students understand different signal and their analysis , fouries and Z-transform.The learning outcomes of the course contribute to employability.
1950	Prime Movers and Pumps	B19 ME 2207	This course enables students in learning the characteristics of fluids and working nature of hydraulic machines that help in developing employability of the students.
1951	OOPs through JAVA	B19 CS 2209	This course enables students to acquire essential skills needed for developing different softwares such as mobile applications and games, this ability of design plays a key role in students getting employment in relevant industries.
1952	Management and Organizational Behavior	B19 HS 2201	This course resembles Organizational behavior management (OBM) applies behavioral principles to people in business, industry, government and human service
1953	Electrical Measurements and Instrumentation Lab	B19 EE 2204	This course enables students to practice verification measurement of R,L,C using bridges and calibration of meters. The learning outcomes of the course contribute to skill development
1954	Thermal Prime movers Lab	B19 ME 2208	This course relates to providing knowledge on functioning of various IC engines, viscosities, flash and fire points of oil samples that help in developing employability of the students.
1955	Professional Ethics and Human Values	B19 MC 2202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
1956	English	B19 HS 1101	The student develops LSRW skills in English based on classic english literature. It also helps for employability.
1957	Mathematics-I	B19 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
1958	Mathematics-II	B19 BS 1102	The course M-II enables students to learn and apply Mathematical concepts like Solution of algebraic and transcendental equations, Fourier Series and Fourier Transforms. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Image processing, Machine Learning, Signal Processing.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1959	Applied Chemistry	B19 BS 1105	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
1960	Computer Fundamentals & Problem Solving Using C	B19 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1961	Applied Chemistry Lab	B19 BS 1108	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
1962	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1963	Computer Fundamentals & Problem Solving Using C Lab	B19 CS 1104	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
1964	Mathematics-III	B19 BS 1202	It is a course on differential equations which help model real world behaviour of structural deformations, vibrations, flutter, fluid seepage, fate of contaminants etc., which are addressed by Civil Engineers specialised in problem solving related to Structures, Foundations, Water Resources, Pavements and Environment. It helps for employability skills.
1965	Applied Physics	B19 BS 1203	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
1966	Digital Logic Design	B19 CS 1202	This course enables students to acquire knowledge and understanding of the design of digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits which helps them become employable.
1967	Basic Data Structures and Python Programming	B19 CS 1203	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1968	Engineering Drawing	B19 ME 1201	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1969	Applied Physics Lab	B19 BS 1206	The experiments in Applied Physics lab are planned in such a way that the students get hands on experience in using the different instruments individually and interpreting the theoretical concepts also. This will enhance their skills in different disciplines there by producing employability in their field.
1970	Basic Data Structures and Python Programming Lab	B19 CS 1205	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.
1971	Communication Skills Lab	B19 HS 1203	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1972	Engineering Exploration Project	B19 IT 1201	To explore various projects available in govt sites and work on them Content with direct bearing on entrepreneurship
1973	Discrete Mathematical Structures	B19 IT 2101	This course is to use abstract language, work with algorithms, self-analyze their computational thinking, and accurately modeling real-world solutions. The learning outcomes of this course contribute to employability prospects of students.
1974	Principles of Software Engineering	B19 IT 2102	Software engineering principles are a collection of approaches, styles, philosophies, and best practices. The learning outcomes of this course contribute to employability prospects of students.
1975	Micro Processor	B19 IT 2103	microprocessor, any of a type of miniature electronic device that contains the arithmetic, logic, and control circuitry necessary to perform the functions. The learning outcomes of this course contribute to employability prospects of students.
1976	Advanced Data Structures	B19 IT 2104	A data structure is a specialized format for organizing, processing, retrieving and storing data. The learning outcomes of this course contribute to employability prospects of students.
1977	Computer Organization	B19 IT 2105	Computer Organization is concerned with the structure and behaviour of a computer system as seen by the user. The learning outcomes of this course contribute to employability prospects of students.
1978	Object Oriented Programming through C++	B19 IT 2106	This subject is treated as a fundamental programming subject for those who want to extend their carrier in IT sector. The learning outcomes of this course contribute to employability prospects of students.
1979	Advanced Data Structures Lab	B19 IT 2107	A data structure is a specialized format for organizing, processing, retrieving and storing data. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1980	Object Oriented Programming through C++ Lab	B19 IT 2108	This subject is treated as a fundamental programming subject for those who want to extend their carrier in IT sector.The learning outcomes of this course contribute to employability prospects of students.
1981	Professional Ethics & Human Values	B19 MC 2101	human values convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
1982	Probability and Statistics	B19 BS 2202	Use mathematics and statistics to help develop solutions to practical problems.The learning outcomes of this course contribute to employability prospects of students.
1983	Java Programming	B19 IT 2201	Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies.The learning outcomes of this course contribute to employability prospects of students.
1984	Operating Systems	B19 IT 2202	Operating system structuring. Synchronization, communication and scheduling in parallel systems.The learning outcomes of this course contribute to employability prospects of students.
1985	Database Management Systems	B19 IT 2203	this course will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity.The learning outcomes of this course contribute to employability prospects of students.
1986	Theory of Computation	B19 IT 2204	Automata theory (also known as Theory Of Computation) is a theoretical branch of Computer Science and Mathematics, which mainly deals with the logic of computation with respect to simple machines, referred to as automata. The learning outcomes of this course contribute to employability prospects of students.
1987	Java Programming Lab	B19 IT 2205	Java is a general-purpose, class-based, object-oriented programming language designed for having lesser implementation dependencies.The learning outcomes of this course contribute to employability prospects of students.
1988	UNIX Operating Systems Lab	B19 IT 2206	This subject deal operation and application of open source operating system, again this subject is for those who want to build their carrier in software fields.The learning outcomes of this course contribute to skill development prospects of students.
1989	Data Base Management Systems Lab	B19 IT 2207	It will focus on creating and improving queries, optimizing the database to run as efficiently as possible, and of course, maintaining backups and data integrity.The learning outcomes of this course contribute to employability prospects of students.
1990	English	B19 HS 1101	The student develops LSRW skills in English based on classic english literature. It also helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
1991	Mathematics-I	B19 BS 1101	The course M-1 enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
1992	Engineering Physics	B19 BS 1103	The course covers the operating principles of many instruments used in Civil Engineering Surveying, material testing, insulations, building services, non-destructive testing, repair of structures, environmental remediation etc.,
1993	Basic Electrical & Electronics Engineering	B19 EE 1101	This course focuses on employability of students by making them understand DC and AC circuits, Machines and diodes.
1994	Engineering Drawing	B19 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
1995	Engineering Physics Lab	B19 BS 1106	This laboratory course develops essential understanding of optical, electrical, magnetic and vibration phenomena that are used in measuring and surveying instruments and construction of buildings.
1996	English Lab	B19 HS 1102	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
1997	Workshop Practice Lab	B19 ME 1102	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
1998	Mathematics-II	B19 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
1999	Engineering Mechanics	B19 ME 1202	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
2000	Engineering Chemistry	B19 BS 1204	It is a course that helps understand the material behaviour and quality of building materials, water, polymers under service and environmental stress conditions. These aspects are essential knowledge for structural, water resources and environmental professionals.
2001	Programming for Problem Solving using C	B19 CS 1201	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2002	Computer Aided Engineering Drawing	B19 ME 1203	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
2003	Engineering Chemistry Lab	B19 BS 1207	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills.
2004	Communication Skills Lab	B19 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2005	Programming for Problem Solving using C Lab	B19 CS 1204	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2006	Basic Electrical & Electronics Engineering Lab	B19 EE 1203	This course enables students to practice functioning of DC machines and load test on DC machines and KCL and KVL laws verification. The learning outcomes of the course contribute to skill development.
2007	Engineering Exploration Project	B19 ME 1204	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
2008	Mathematics-III	B19 BS 2101	Content with direct bearing on Employability
2009	Strength of Materials	B19 ME 2101	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
2010	Engineering Thermodynamics	B19 ME 2102	This course deals with law of thermodynamics, thermal systems and thermodynamics relations that help in developing employability of the students.
2011	Manufacturing Processes	B19 ME 2103	This course focuses on various methods of converting raw materials to finished products that help in developing employability of the students.
2012	Metallurgy and Materials Science	B19 ME 2104	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
2013	Mechanical Engineering Drawing	B19 ME 2105	This course focuses on learning the various fastenings (temporary, permanent.), Bearings, couplings, key, along with conventional representation which helps in developing skills of the students.
2014	Mechanical Engineering Lab	B19 ME 2106	This course concentrates on the characteristics of working with IC engine of various engineering applications which helps in developing skills of the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2015	Manufacturing Processes Lab	B19 ME 2107	This course enables students in gaining knowledge on conventional & unconventional Machining and Properties of moulding sand that help in developing employability of the students.
2016	Professional Ethics and Human Values	B19 MC 2101	human values convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2017	Introduction to Machine Learning using Python	B19 MC 2104	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.
2018	Mathematics-IV	B19 BS 2201	The course M-IV enables students to learn and apply Mathematical concepts like Vector Calculus, Applications of Partial Differential Equations, Complex Analysis. The knowledge of these concepts contributes to skill development in the Engineering fields like Computational Fluid Dynamics, Satellite communication
2019	Advanced Strength of Materials	B19 ME 2201	This course aims at applying engineering properties of materials, struts, columns, bending of beams and stress-strain relationship that help in developing employability of the students.
2020	Applied Thermal Engineering	B19 ME 2202	This course focuses on orienting the applications of different types of power plants, boilers, condenser, steam nozzles and steam turbines that help in developing employability of the students.
2021	Metal Cutting and Machine Tools	B19 ME 2203	This course enables students in gaining knowledge on conventional Machining which helps in developing employability of the students.
2022	Fluid Mechanics	B19 ME 2204	This course enables students in learning the characteristics of fluids which helps in augmenting employability of the students.
2023	Managerial Economics and Financial Accountancy	B19 HS 2202	This enables students in learning the basics of economics and cost analysis related to engineering that drives them to develop their entrepreneurship skills.
2024	Strength of Materials Lab	B19 ME 2205	This course aims at applying engineering properties of materials and stress-strain relationship that help in developing employability of the students.
2025	Machine Tools Lab	B19 ME 2206	This course enables students in gaining knowledge on conventional Machining which helps in developing employability of the students.
2026	Constitution of India	B19 MC 2202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
2027	Theory of Elasticity	M19 ST 1101	The course is advanced to strength of materials and it gives a deep insight into the elastic behaviour in materials and three dimensional analysis which is very much useful in analysing the complex structures.
2028	Structural Dynamics	M19 ST 1102	The course majorly focus on the dynamic analysis of structure and mode shapes which are mainly useful in the analysis of structures designed as Earthquake Resistant.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2029	Matrix Analysis of Structures#PE-I	M19 ST 1103	The course mainly focuses on the matrix methods in analysing the indeterminate structures which are basis for developing the structural analysis softwares.
2030	Analytical & Numerical Methods for Structural Engineering#PE-I	M19 ST 1104	The course equips the structural engineer with advanced mathematical approaches to solving design problems. Beam behaviour under various loads is studied in these approaches.
2031	Design of RCC Foundations#PE-I	M19 ST 1105	The design of foundations for high rise buildings in all types of soil conditions is an important design skill for the structural engineer. This course exposes the student to different kinds of design approaches for important foundation types.
2032	Bridge Engineering #PE-II	M19 ST 1106	This course focuses on the design of different types of bridges and also creates awareness on the bridge bearings and their uses that are used in real life bridges.
2033	Repair and Rehabilitation of Structures#PE-II	M19 ST 1107	This course helps the students in developing the knowledge to access the damage intensity in the structures and to provide suitable repair and rehabilitation techniques
2034	Advanced Reinforced Concrete Design#PE-II	M19 ST 1108	This is an advanced course to the reinforced concrete design which is one of important course in civil Engineering. The load considerations and designs criterion of typical structures like grid slabs, flat slabs, fire resistant detailing etc were discussed in the course which are useful in designing the real time structures.
2035	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2036	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2037	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2038	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2039	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2040	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2041	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2042	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2043	Finite Element Methods in Structural Engineering	M19 ST 1201	FEM forms the basis for all popular analysis software packages. This course gives the theoretical underpinnings of 1 D and 2 D analysis of stress, strain and bending in structures.
2044	Theory of Plates and Shells	M19 ST 1202	The structural engineer increasingly needs to realise the whims of deconstructivist architects whose forms and elements do not have references in design codes. The theoretical underpinnings of plates and shells arms him with the knowledge to handle such design challenges in his career.
2045	Stability of Structures#PE-III	M19 ST 1203	The structural engineer needs to ascertain the behaviour of his designed buildings under different loading conditions during its service life, including wind, wave and seismic loads. This course equips with knowledge to assess the stability of structures under possible extreme conditions.
2046	Advanced Steel Design#PE-III	M19 ST 1204	This course equips the engineer with design knowledge in steel structures. Steel is the preferred material for constructing large span buildings and industrial structures.
2047	Analysis of Offshore Structures#PE-III	M19 ST 1205	The course offers basic knowledge of floating and fixed marine structures which experience wave loads and a hostile chemical environment to building materials.
2048	Earthquake Resistant Design of Buildings#PE-IV	M19 ST 1206	This course develops the knowledge on engineering seismology and seismic code provisions which helps in designing the earthquake resistant structures
2049	Structural Optimization Techniques#PE-IV	M19 ST 1207	This course discusses about the usage of various optimization techniques like linear and non linear programming, quadratic programming in solving various constructional and design problems.
2050	Earth Retaining Structures#PE-IV	M19 ST 1208	The course is offers specialised knowledge to Structural Engineer tasked with stabilising soils and hill sides in construction and road projects in challenging topographies. The Border Roads Organisation needs such specialised skills for their work.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2051	Computer Aided Design Laboratory	M19 ST 1209	The course focuses on the Integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve the highest productivity, which helps students for employability.
2052	Mini Project With Seminar	M19 ST 1211	The course aims at the application of engineering knowledge to get civil engineering output which develops skill in the student community.
2053	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2054	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2055	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2056	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2057	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2058	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2059	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2060	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2061	Dissertation-I / Industrial Project	M19ST2106	Activity with direct bearing on skill development and employability



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2062	Construction Management	M19 ST 2107	The knowledge gained in this course is useful to both work as a site engineer or to get started as a contractor / entrepreneur in Civil Engineering projects. It helps for entrepreneurship.
2063	Green Technology	M19 ST 2108	Activity with direct bearing on skill development and employability
2064	Analysis of Offshore Structures	M19 ST 2109	Activity with direct bearing on skill development and employability
2065	Dissertation-I / Industrial Project	M19 ST 2105	Activity with direct bearing on skill development and employability
2066	Dissertation-II / Industrial Project	M19 ST 2201	Activity with direct bearing on skill development and employability
2067	Mathematical Foundations of Computer Science	M19 CST 1101	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
2068	Advanced Data Structures	M19 CST 1102	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2069	Artificial Intelligence#PE-I	M19CST1103	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks.
2070	Cloud Computing#PE-I	M19CST1104	This course helps the students learn the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet offer faster innovation, flexible resources, and economies of scale. This understanding plays a key role in student's getting employment in relevant industries
2071	Digital Image Processing#PE-I	M19CST1105	This course helps the students learn the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
2072	Advanced Operating System#PE-I	M19CST1106	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
2073	Optimization Techniques#PE-I	M19CST1107	This course helps the students to develop interest in applying optimization techniques .This knowledge improves their skills and this understanding plays a key role in student's employment in relevant industries.
2074	Bigdata Analytics#PE-I	M19CST1108	This course deals with concepts like hadoop architecture,pig and hive which will help them gain better employability opportunities and build a better career



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2075	Applied Cryptography#PE-II	M19CST1109	This course enables students learn the concepts related to the areas of cryptography and cryptanalysis and develop a basic understanding of the algorithms used to protect users online. This understanding plays a key role in student's employment in relevant industries.
2076	Advanced Computer Networks#PE-II	M19CST1110	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
2077	Embedded Computing#PE-II	M19CST1111	This course helps students to develop different models using TCP and UDP socket programming.
2078	Parallel Computer Architecture#PE-II	M19CST1112	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2079	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2080	Advanced Data Structures Lab	M19 CST 1113	This course makes students develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2081	Computing Lab	M19 CST 1114	This course makes students learn the concepts related to python programming which will help them grab employability opportunities in the industry.
2082	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2083	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2084	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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China Amiram, Bhimavaram, Andhra Pradesh- 534204

S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2085	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2086	Constitution of India#AC-1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2087	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2088	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2089	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2090	Advanced Algorithms	M19 CST 1201	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2091	Machine Learning	M19 CST 1202	this course makes students to conceptualize the concetps related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in students getting employment in relevant industries.
2092	Soft Computing #PE-III	M19CST1203	This course enables students to gain knowledge about neural network theory and fuzzy logic theory. This knowledge will contribute to student's getting employability in relevant industries.
2093	Advanced Network Principles and Protocols#PE-III	M19CST1204	This course helps students understand fundamentals of various components like networking protocols which not only enhances their technical competence but also makes them become employable in relevant companies.
2094	Internet of Things #PE-III	M19CST1205	This course makes students learn the concepts related to Internet of Things in real time, and for automatizing of machines. This understanding plays a key role in student's getting employment in relevant industries, enhance their entrepreneur skills.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2095	Open Source Programming #PE-III	M19CST1206	This course makes students to develop applications on open source software. This knowledge will contribute to student's getting employability in relevant industries.
2096	Pattern Recognition #PE-III	M19CST1207	This course enables students learn the concepts related to data analysis method that uses machine learning algorithms to automatically recognize patterns and regularities in data. This understanding plays a key role in student's getting employment in relevant industries
2097	Natural Language Processing#PE-IV	M19CST1208	This course deals with concepts related to automation translation and understanding of human intelligence and knowledge which help them gain better employability opportunities and build better carrier in the area of AI, Neural Networks and NLP.
2098	Full Stack Technologies#PE-IV	M19CST1209	This course enables students apply the concepts related to HTML, java script, XML, AJAX and PHP. This understanding and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.
2099	Parallel Algorithms#PE-IV	M19CST1210	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2100	Object Oriented Software Engineering#PE-IV	M19CST1211	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneurship skills as almost every software includes database and software analysis & design . It is also useful to acquire Software Engineer jobs.
2101	Distributed Database#PE-IV	M19CST1212	This course deals with concepts automation translation and understanding of human intelligence and knowledge which help them gain better employability opportunities and build better carrier in the area of AI, Neural Networks and NLP.
2102	Advance Algorithm Lab	M19 CST 1213	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2103	Machine Learning Lab	M19 CST 1214	This course makes students learn and apply basic supervised and unsupervised machine learning algorithms, ensemble algorithms, deep neural network models CNN, RNN, LSTM, AutoEncoders, ResNet, AlexNet in Python environment for solving societal problems. This understanding plays a key role in students' getting employment in Machine Learning environment.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2104	Mini Project with Seminar	M19 CST 1215	This course includes all the steps of project development starting from inception phase and ending with deployment of a research oriented projects. Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work
2105	Python Programming	M19 CST 2106	Python programming helps to conduct complex statistical calculations, create data visualization, build Machine learning algorithms to manipulate and analyze the data, this ability of design plays a key role in students getting employment in relevant industries.
2106	Artificial Intelligence	M19 CST 2107	This course deals with concepts like automation of human intelligence which help them gain better employability opportunities and build better carrier in the area of AI and Neural Networks.
2107	Advanced Data structures	M19 CST 2108	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2108	Dissertation-I / Industrial Project	M19 CST 2105	Activity with direct bearing on skill development and employability
2109	Dissertation-II / Industrial Project	M19 CST 2201	Activity with direct bearing on skill development and employability
2110	English for Research Paper Writing#AC-2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2111	Disaster Management#AC-2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2112	Sanskrit for Technical Knowledge#AC-2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2113	Value Education#AC-2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2114	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2115	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2116	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2117	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2118	Digital Data Communications	M19 CS 1101	This course makes students learn the concepts related to Different modulation techniques to improve the bandwidth and their properties. This understanding plays a key role in students' getting employment in relevant industries.
2119	Advanced Digital Signal Processing	M19 CS 1102	This course helps students learn the concepts related to design and implementation techniques of digital filter (both FIR & IIR) . This understanding plays a key role in students' getting employment in relevant industries.
2120	Radar Signal Processing#PE-I	M19 CS1103	This course helps students learn the concepts related to Derivation of Radar range and Design of matched filter for different noises. This understanding plays a key role in students' getting employment in relevant industries.
2121	RF Circuit Design#PE-I	M19 CS 1104	This course enables students to learn the concepts related to the design and analysis of single and multiport networks and RF Filters . This understanding plays a key role in students' getting employment in relevant industries.
2122	Advanced Computer Networks#PE-I	M19 CS 1105	This course enables students to learn the concepts related to the principles of computer networks and Congestion and Quality of Service. This understanding plays a key role in students' getting employment in relevant industries.
2123	Wireless LANs and PANs #PE-II	M19 CS 1106	This course makes students learn the concepts related to different generations of mobile networks and wireless networks. This understanding plays a key role in students' getting employment in relevant industries.
2124	Mobile Computing Technologies#PE-II	M19 CS1107	This course enables students to learn the concepts related to WAP and Wireless LAN. This understanding plays a key role in students' getting employment in relevant industries.
2125	Network Security & Cryptography#PE-II	M19 CS 1108	This course makes students learn the concepts related to cryptography, authentication and emerging security standards. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2126	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2127	Data Communications Lab	M19 CS 1109	The experiments carried out in this lab consolidate student's understanding of the steps involved in the analysis and synthesis of different analog & digital link set ups using a fiber in detail. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
2128	Advanced Digital Signal Processing Lab	M19 CS 1110	This course aims at helping students learn various aspects of different filters in software and apply transforms in time and frequency. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2129	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2130	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2131	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2132	Value Education #AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2133	Constitution of India#AC-1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2134	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2135	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2136	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2137	Wireless Communications and Networks	M19 CS 1201	This course enables students to learn the concepts related to functioning of wireless communication system and evolution of different wireless communication systems and standards. This understanding plays a key role in students' getting employment in relevant industries.
2138	Image and Video Processing	M19 CS 1202	This course helps students learn the concepts related to digital image processing and video processing. This understanding plays a key role in students' getting employment in relevant industries.
2139	Soft Computing Techniques#PE-III	M19 CS 1203	This course enables students to learn the concepts related to soft computing basics and c implementation details on Artificial Neural Networks. This understanding plays a key role in students' getting employment in relevant industries.
2140	Internet Protocols#PE-III	M19 CS 1204	This course makes students learn the concepts related to theoretical and practical knowledge about the TCP/IP networking, which are fundamental to understand the architecture of the Internet. This understanding plays a key role in students' getting employment in relevant industries.
2141	Cyber Security#PE-III	M19 CS 1205	This course enables the students learn the concepts related to securing both clean and corrupted systems, protect personal data, and secure computer networks. This understanding plays a key role in students' getting employment in relevant industries.
2142	Optical Networks #PE-IV	M19 CS 1206	This course makes students learn the concepts related to Various components of optical networks and Multiplexing techniques and fibre characteristics. This understanding plays a key role in students' getting employment in relevant industries.
2143	Digital Signal Processors and Architectures#PE-IV	M19 CS 1207	This course enables students to understand the concepts related to -basic DFT, FFT and rate conversion algorithms dynamic range and sources of errors in DSP systems.This understanding plays a key role in students' getting employment in relevant industries.
2144	Radio Navigational Aids#PE-IV	M19 CS 1208	This course helps students learn the concepts related to -Navigational Systems and Inertial navigation , Global Positioning System and its applicationsin navigation This understanding plays a key role in students' getting employment in relevant industries.
2145	Advanced Communications Lab	M19 CS 1209	This course makes students learn the concepts related to measurement of bit error rate, Hamming distance and coding techniques and calculation efficiency of spread spectrum techniques. This understanding plays a key role in students' getting employment in relevant industries.
2146	Advanced Digital Image and Video Processing Laboratory	M19 CS 1210	This course makes students apply the concepts related to processing algorithms to enhance images and videos, and compression and segmentation techniques of Images and Videos. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2147	Mini Project with Seminar	M19 CS 1211	This course aims at enabling students to explicate various aspects of undertaking and presenting a technological project . This experience gained from the course contributes to the development of skills needed for more advanced applications.
2148	English for Research Paper Writing#AC-2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2149	Disaster Management#AC-2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2150	Sanskrit for Technical Knowledge#AC-2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2151	Value Education #AC-2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2152	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2153	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2154	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2155	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2156	Detection and Estimation Theory	M19CS2101	This course enables students to understand the concepts related to the time varying waveform detection and its estimation. This understanding plays a key role in students' getting employment in relevant industries.
2157	Coding Theory and Applications	M19CS2102	This course helps students learn the concepts related to Implement coding techniques in real time systems. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2158	Software Defined Radio	M19CS2103	This course makes students learn the concepts related to SDR and their role in future communication systems. This understanding plays a key role in students' getting employment in relevant industries.
2159	Dissertation-I /Industrial Project	M19CS 2106	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2160	Dissertation-II /Industrial Project	M19 CS 2201	This course aims at enabling students to learn various aspects of a current problem through literature/field/case studies and define the background objectives and methodology for solving the same. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2161	Advanced Power system operation and control	M19 PS 1101	This course focuses on employability of students by making them understanding Economical operation using thermal plants and combined hydro thermal plants
2162	Power system dynamics and stability	M19 PS 1102	This course makes students understand the concept of dynamics, stability, excitation and SMIB of power system. The learning outcomes of the course contribute to employability.
2163	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2164	Power System Simulation Laboratory-I	M19 PS 1109	This course enables students to practice usage of MATLAB to electrical problems like load flow solution, fault analysis. The learning outcomes of the course contribute to skill development.
2165	Power system Laboratory	M19 PS 1110	This course enables students to practice Determination of Sequence Impedence of an Alternator, measurement of ABCD parameters of transmission line. The learning outcomes of the course contribute to skill development.
2166	Electric Power Distribution System #PE-I	M19 PS 1103	This course focuses on employability of students by making them understand design of substation and distribution system
2167	HVDC Transmission #PE-I	M19 PS 1104	This course focuses on employability of students by making them understand HVDC transmission techniques.
2168	EHVAC Transmission #PE-I	M19 PS 1105	This course makes students understand the calculation of field effects on EHV and UHVAC. The learning outcomes of the course contribute to employability
2169	Artificial Intelligence Techniques #PE-II	M19 PS 1106	This course makes students understand the course provides GA in optimization, Fuzzy and ANN architecture. The learning outcomes of the course contribute to employability.
2170	Optimization Techniques #PE-II	M19 PS 1107	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes of the course contribute to employability.
2171	Advanced Digital Signal Processing #PE-II	M19 PS 1108	This course focuses on employability of students by making them understand the design of digital filters helps for employability



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2172	English for Research Paper Writing #AC-1 & 2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2173	Disaster Management #AC-1 & 2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2174	Sanskrit for Technical Knowledge #AC-1 & 2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2175	Value Education #AC-1 & 2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2176	Constitution of India #AC-1 & 2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2177	Pedagogy Studies #AC-1 & 2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2178	Stress Management by Yoga #AC-1 & 2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2179	Personality Development through Life Enlightenment Skills. #AC-1 & 2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2180	Real Time Control of Power Systems	M19 PS 1201	This course makes students understand the the significance of voltage and stability analysis, importance of security . The learning outcomes of the course contribute to employability
2181	Advanced Power Electronic Converters	M19 PS 1202	This course focuses on employability of students by making them understand the control principle of AC -AC conversion with suitable devices
2182	Power System Simulation Laboratory- II	M19 PS 1209	This course enables students to practice usage of MATLAB to electrical problems and application of GA in optimization ,AI techniques .The learning outcomes of the course contribute to skill development.
2183	Power Electronics for Renewable Integration Laboratory	M19 PS 1210	This course enables students to practice operation of convertes and inverterd for single and three phase load. The learning outcomes of the course contribute to skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2184	Mini Project with Seminar	M19 PS 1211	This course aims at enabling students to explicate various aspects of undertaking and presenting a technological project . This experience gained from the course contributes to the development of skills needed for more advanced applications.
2185	Power Quality Issues and Remedies #PE-III	M19 PS 1203	This course makes students understand ooltage sag, swell, harmonics in power system . The learning outcomes of the course contribute to employability.
2186	Digital Protection of Power Systems #PE-III	M19 PS 1204	This course makes students understand study of pilot relaying and carrier current protection . The learning outcomes of the course contribute to employability.
2187	Power System Transients #PE-III	M19 PS 1205	This course makes students understandthe effect of over voltages, lighting in power systems The learning outcomes of the course contribute to employability.
2188	Smart Grids Technologies #PE-IV	M19 PS 1206	This course makes students understand about knowledge of microgrids and distributed energy systems. The learning outcomes of the course contribute to employability.
2189	Renewable Energy Systems #PE-IV	M19 PS 1207	This course focuses on employability of students by making them understand wind, solar energy systems
2190	Advanced Control Theory #PE-IV	M19 PS 1208	This course focuses on employability of students by making them understand design of control system - lead lag, Tuning methods
2191	Power System Automation.	M19PS2101	This course focuses on employability of students by making them Understanding SCADA .
2192	Restructured Power System	M19PS2102	This course makes students understand the nalysing various types of electricity market operation and control issues using new mathematical model The learning outcomes of the course contribute to employability.
2193	Flexible AC Transmission systems	M19PS2103	This course makes students understand the diffenet FACTS controller , SVC,TCSC and applications. The learning outcomes of the course contributes to employability.
2194	Dissertation-I /Industrial Project	M19 PS 2206	Skill development
2195	Dissertation-II /Industrial Project	M19 PS 2201	Skill development
2196	Discrete Mathematical Structures	M19 IT 1101	This course helps to develop solutions to practical problems.The learning outcomes of this course contribute to employability prospects of students.
2197	Advanced Data Structures	M19 IT 1102	This course is a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to employability prospects of students.
2198	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurships skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2199	Advanced Data Structures Lab	M19 IT 1113	This course focuses on a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to skill development prospects of students.
2200	Computing Lab	M19 IT 1114	This course focuses to provide required computing and simulation facilities to the undergraduate students in order to meet their requirements.The learning outcomes of this course contribute to skill development prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2201	Artificial Intelligence #PE-I	M19IT1103	This course helps professionals to master the concepts of data sources, knowledge acquisition and types of machine learning algorithms. The learning outcomes of this course contribute to employability prospects of students.
2202	Service Oriented Architectures And Web Security #PE-I	M19IT1104	This course focuses on a security program must be multidimensional. Regardless of security policy goals, one cannot completely ignore any of the three major requirements. The learning outcomes of this course contribute to employability prospects of students.
2203	Internet of Things #PE-I	M19IT1105	This course describes the network of physical object that are embedded with sensors, software, and other technologies. The learning outcomes of this course contribute to employability prospects of students.
2204	Optimization Techniques #PE-I	M19IT1106	This course is used in many areas of study to find solutions that maximize or minimize some study parameters, such as minimize costs in the production of a good or service, maximize profits, minimize raw material in the development of a good, or maximize production. The learning outcomes of this course contribute to employability prospects of students.
2205	Parallel Computer Architecture #PE-I	M19IT1107	This course is the method of organizing all the resources to maximize the performance and the programmability within the limits given by technology and the cost at any instance of time. The learning outcomes of this course contribute to employability prospects of students.
2206	Bigdata Analytics #PE-II	M19IT1108	This courses provides information about complex process of examining big data to uncover information , such as hidden patterns, correlations, market trends and customer preferences , that can help organizations make informed business decisions. The learning outcomes of this course contribute to employability prospects of students.
2207	Principles Of Cryptography #PE-II	M19IT1109	This course is a technique of securing information and communications through use of codes . The learning outcomes of this course contribute to employability prospects of students.
2208	Cluster And Grid Computing #PE-II	M19IT1110	This course focuses on a heterogeneous network whose devices have diverse hardware segments and diverse OS connected in a grid. The learning outcomes of this course contribute to employability prospects of students.
2209	Imaging and Multimedia Systems #PE-II	M19IT1111	This course converts the printed text, artwork, and photographs into digital images using a digital scanner or another imaging device. The learning outcomes of this course contribute to employability prospects of students.
2210	Advanced Graph Theory #PE-II	M19IT1112	This course is a concerned with networks of points connected by lines. The learning outcomes of this course contribute to employability prospects of students.
2211	English for Research Paper Writing # AC 1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.



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# SAGI RAMAKRISHNAM RAJU ENGINEERING COLLEGE (A)

China Amiram, Bhimavaram, Andhra Pradesh- 534204

S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2212	Disaster Management# AC1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2213	Sanskrit for Technical Knowledge# AC1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2214	Value Education# AC1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2215	Constitution of India# AC1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2216	Pedagogy Studies# AC1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2217	Stress Management by Yoga# AC1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2218	Personality Development through Life Enlightenment Skills.# AC1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2219	Advanced Algorithms	M19IT1201	This course helps to develop advanced algorithms The learning outcomes of this course contribute to employability prospects of students.
2220	Full Stack Technologies	M19IT1202	This course refers to the way computers/devices communicate. with each other using mark up languages. The learning outcomes of this course contribute to employability prospects of students.
2221	Machine Learning #PE-III	M19IT1203	This course allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. The learning outcomes of this course contribute to employability prospects of students.
2222	DevOps #PE-III	M19IT1204	This course refers to the way computers/devices communicate with each other using mark up languages. The learning outcomes of this course contribute to employability prospects of students.
2223	Advanced Network Principles and Protocols #PE-III	M19IT1205	This lab exposes students to various advanced topics including Wi-Fi, WiMAX, Satellite Networks, Mobile Adhoc Networks (MANETs), Wireless Sensor Networks (WSNs) . The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2224	Distributed Computing #PE-III	M19IT1206	This course consists of multiple software components that are on multiple computers, but run as a single system. The learning outcomes of this course contribute to employability prospects of students.
2225	Social Network Analytics#PE-III	M19IT1207	This course refers to the process of investigating social structures through the use of networks and graph theory. The learning outcomes of this course contribute to employability prospects of students.
2226	Digital Image Processing #PE-IV	M19IT1208	This course enables technology for the generation, transformation, extraction and interpretation of information via electronic signals. The learning outcomes of this course contribute to employability prospects of students.
2227	Block Chain Technologies#PE-IV	M19IT1209	This course helps to store transactional records, also known as the block, of the public in several databases, known as the "chain," in a network connected through peer-to-peer nodes. The learning outcomes of this course contribute to employability prospects of students.
2228	Data Science #PE-IV	M19IT1210	This course refers to the domain of study that deals with vast volumes of data using modern tools and techniques to find unseen patterns, derive meaningful information, and make business decisions. The learning outcomes of this course contribute to employability prospects of students.
2229	Soft Computing#PE-IV	M19IT1211	This course focuses on collection of methodologies, which aim to exploit tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost. The learning outcomes of this course contribute to employability prospects of students.
2230	Natural Language Processing#PE-IV	M19IT1212	This course provides information about computational techniques to the analysis and synthesis of natural language and speech. The learning outcomes of this course contribute to employability prospects of students.
2231	Advance Algorithms Lab	M19IT1213	This course helps to develop and enhance advanced algorithms in lab. The learning outcomes of this course contribute to skill development prospects of students.
2232	Full Stack Technologies Lab	M19IT1214	This course refers to the way computers/devices communicate. with each other using mark up languages. The learning outcomes of this course contribute to skill development prospects of students.
2233	Mini Project with Seminar	M19IT 1215	This course aims at enabling students to explicate various aspects of undertaking and presenting a technological project . This experience gained from the course contributes to the development of skills needed for more advanced applications.
2234	English for Research Paper Writing # AC2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2235	Disaster Management# AC2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2236	Sanskrit for Technical Knowledge# AC2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2237	Value Education	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2238	Constitution of India# AC2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2239	Pedagogy Studies# AC2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2240	Stress Management by Yoga# AC2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2241	Personality Development through Life Enlightenment Skills. AC2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2242	Comprehensive Viva-Voce	M19 IT 2101	The viva voce exam gives an opportunity to test the engineer's ability to satisfy colleagues and clients with his explanations about the solutions to design problems and his or her approach to soolve the problem within the time and resources made available to him.
2243	Project Work Part-I	M19 IT 2103	The learning outcomes of this course contribute to employability prospects of students.
2244	Project Work Part-II	M19 IT 2202	The learning outcomes of this course contribute to employability prospects of students.
2245	Geometric Modeling	M19 CAD 1101	The course concentrates on the Integration of computers and manufacturing tools to the realworld image procesing problems in the industry so as to achieve the highest productivity, which paves a way for employability for students.
2246	Computer Aided Manufacturing	M19 CAD 1102	The course deals with the integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve highest productivity, which relates to employability skills finally.
2247	Advanced CAD Lab	M19 CAD 1109	The course focuses on learning the use of CAD packages to make engineering drawings, which makes a way for students to develop skills.
2248	Advanced Manufacturing Lab	M19 CAD 1110	The course concentrates on design and simulation of various manufacturing methods to solve real world industrial problems, which develops skills for the students.
2249	Computational Methods in Engineering #PE-I	M19 CAD 1103	The course aims at the application of complex mathematical solutions to solve real world problems in indutry in order to achieve the highest productivity, which enhances enterpreneurship.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2250	Material Technology #PE-I	M19 CAD 1104	The course concentrates on understanding various material characterisation techniques to enhance material material properties of various engineering systems, which enhances employability skills.
2251	Mechanical Vibrations #PE-I	M19 CAD 1105	The course focuces on design and devolpment of engineering systems which is often reserved for systems that can oscillate freely without applied forces, which relates to employability skills.
2252	Mechatronics #PE-II	M19 CAD 1106	The course deals with the application of electronics and mechanics to solve various engineering problems to become industry ready. It thus appllies to employability.
2253	Industrial Robotics #PE-II	M19 CAD 1107	The course deals with the construction and simulation of robots and their application in different areas, which, in turn, help for employability.
2254	Modelling and Simulation of Manufacturing Systems #PE-II	M19 CAD 1108	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become indutry ready, which develops skill for the students.
2255	Theory of Elasticity and Plasticity	M19CAD 1201	The course deals with the design of mathematical models to solve complex 2D&3D stresses and strains in real world engineering applications so as to devolp highest reliable engineering systems, which makes a way for employability skills.
2256	Advanced Finite Element Methods	M19CAD 1202	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in indutrial & engineering systems. It, thus, helps for employability.
2257	Computer Aided Machining Lab	M19CAD 1209	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become indutry ready, which develops skill for the students.
2258	Robotics Lab	M19CAD 1210	The course aims at Construction and simulation of robots and their application in different areas, which in turn improves employability skills in students.
2259	Mini Project With Seminar	M19 CAD 1211	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
2260	Advanced Finite Element Methods #ELE-3	M19CAD 1203	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in indutrial & engineering systems. It, thus, helps for employability.
2261	Fracture Mechanics #ELE-3	M19CAD 1204	The course concentrates on applying analytical solid mechanics to calculate the driving force on a crack and those of experimental solid mechanics to characterize the material's resistance to fracture, which paves a way for employability.
2262	Product Design and Development #ELE-3	M19CAD 1205	The course relates to blending user needs with business goals to help brands make consistently successful products, which builds entrepreneurship.
2263	Materials Characterization Techniques #ELE-4	M19CAD 1206	The course focuses on understanding various material characterisation techniques that enhance material material properties of various engineering systems. This enhances employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2264	Optimization & Reliability #ELE-4	M19CAD 1207	The course aims at the application of complex mathematical solutions to solve real world problems in industry in order to achieve the highest productivity, which enhances employability.
2265	Additive Manufacturing #ELE-4	M19CAD 1208	The course deals with the application of CAD softwares to design a product using different additive manufacturing methods for employability and entrepreneurship skills
2266	Constitution of India #AC	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2267	Pedagogy studies #AC	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2268	Personality development through life enlightenment skills #AC	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2269	Non Destructive Evaluation(Program Elective-V)	M19CAD 2101	The course tries to familiarize magnetic particle testing, radiographic testing , ultrasonic testing and other NDT methods used in industries, which enhances employability skills.
2270	Quality Engineering(Program Elective-V)	M19CAD 2102	The course concentrates on applying the principles and practice of product and service quality assurance and control in engineering and industry applications, which helps in entrepreneurship.
2271	Green Manufacturing(Program Elective-V)	M19CAD 2103	The course focuses on understanding green production processes and the establishment of environmentally-friendly operations within the manufacturing field, which paves a way for employability.
2272	(MOOCS-I)(Program Elective-V)	M19CAD 2104	The course concentrates on applying analytical solid mechanics to calculate the driving force on a crack and those of experimental solid mechanics to characterize the material's resistance to fracture, which paves a way for employability.
2273	MOOCS-II- NPTEL COURSE	M19CAD 2105	The course relates to blending user needs with business goals to help brands make consistently successful products, which builds entrepreneurship.
2274	Project/Dissertation Phase-I	M19CAD2106	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
2275	Dissertation-II /Industrial Project	M19CAD2201	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
2276	English for Research Paper Writing 1	M19AC0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2277	Disaster Management# AC1	M19AC0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2278	Sanskrit for Technical Knowledge# AC1	M19AC0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2279	Value Education# AC1	M19AC0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2280	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2281	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
2282	Applied Physics	B20 BS 1102	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2283	Programming for Problem Solving Using C	B20 CS 1101	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2284	Fundamentals of Computers and Information Technology	B20 IT 1101	This subject is treated as fundamental programming subject for those who want to extend their career in IT sector. The learning outcomes of this course contribute to employability prospects of students.
2285	Programming for Problem Solving Using C Lab	B20 CS 1103	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2286	Applied Physics Lab	B20 BS 1107	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
2287	Computer Engineering Workshop	B20 CS 1104	This course enables students learn the concepts related to computer fundamentals a complete insight into the modern design of digital systems fundamentals from an eminently practical point of view. This understanding plays a key role in student's employment in relevant industries



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2288	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2289	Applied Chemistry	B20 BS 1203	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2290	Digital Logic Design	B20 IT 1201	Digital logic is the manipulation of binary values through printed circuit board technology that uses circuits and logic gates to construct the implementation of computer operations. The learning outcomes of this course contribute to employability prospects of students.
2291	Object Oriented Programming through C++	B20 IT 1202	This subject is treated as a fundamental programming subject for those who want to extend their carrier in IT sector. The learning outcomes of this course contribute to employability prospects of students.
2292	Principles of Electrical and Electronics Engineering	B20 EE 1203	This subject deals with the application of electronic equipments in power frequency range. The learning outcomes of this course contribute to employability prospects of students. .
2293	Applied Chemistry Lab	B20 BS 1208	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
2294	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speakings skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2295	Object Oriented Programming through C++Lab	B20 IT 1203	This subject is treated as a fundamental programming subject for those who want to extend their carrier in IT sector. The learning outcomes of this course contribute to employability prospects of students.
2296	Discrete Mathematics	B20 BS 1104	This course helps to develop solutions to practical problems. The learning outcomes of this course contribute to employability prospects of students.
2297	Introductory Topics in Statistics, Probability & Calculus	B20 BS 1105	This course helps to develop solutions to practical problems. The learning outcomes of this course contribute to employability prospects of students.
2298	Fundamentals of Physics	B20 BS 1106	This course helps to be patient and careful while taking observation and hitherto calculating inference. The learning outcomes of this course contribute to employability prospects of students.
2299	Principles of Electrical Engineering	B20 EE 1103	This course deals with the application of electronic equipments in power frequency range. The learning outcomes of this course contribute to employability prospects of students.
2300	Fundamentals of Computer Science & Programming	B20 CB 1101	This course is treated as fundamental programming subject for those who want to extend their carrer in IT sector. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2301	Business Communication & Value Science - I Lab	B20 HS 1102	This course deals with bussiness values convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to skill development prospects of students.
2302	Fundamentals of Physics Lab	B20 BS 1109	This course helps to learn how to be patient and careful while taking observation and hitherto calculating inference The learning outcomes of this course contribute to skill development prospects of students.
2303	Fundamentals of Computer Science & Programming Lab	B20 CB 1102	This course is treated as fundamental programming subject for those who want to extend their carrer in IT sector The learning outcomes of this course contribute to skill development prospects of students.
2304	Linear Algebra	B20 BS 1205	This course helps to develop solutions to practical problems The learning outcomes of this course contribute to employability prospects of students.
2305	Statistical Methods	B20 BS 1206	This course helps to develop solutions to practical problems The learning outcomes of this course contribute to employability prospects of students.
2306	Principles of Electronics Engineering	B20 EC 1201	This course aims at enabling students to the fundamental concepts, operation & applications in both theoretical and practical approach of Analog electronic devices & circuits and also the basics of Digital electronic circuit elements . This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2307	Data Structures and Algorithms	B20 CB 1201	This course gives information about a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to employability prospects of students.
2308	Fundamentals of Economics	B20 HS 1201	This course focuses on the decision-making process and improves limited resources allocation capability of an individual. The learning outcomes of this course contribute to skill development prospects of students.
2309	Statistical Methods Lab	B20 BS 1209	This course helps to develop solutions to practical problems.The learning outcomes of this course contribute to skill development prospects of students.
2310	Data Structures and Algorithms Lab	B20 CB 1202	This course is a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to skill development prospects of students.
2311	Business Communication & Value Science – II	B20 HS 1203	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2312	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2313	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2314	Applied Physics	B20 BS 1102	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2315	Engineering Drawing	B20 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
2316	Engineering Geology	B20 CE 1101	Construction Engineers (building materials), Geotechnical Engineers (soil identification), Water Resource Engineers (Ground Water), Transportation Engineers (route alignments) will use Geological knowledge in their everyday jobs. Remote Sensing tools and Geophysical Methods are used in site investigations for prospecting, minerals, rocks, ground water, geological formations (faults, fractures etc.,)
2317	Engineering Geology Lab	B20 CE 1102	The student develops the skill of material identification from Rocks and Minerals. The student is also able to visualise various geological features such as fold, faults using concepts of strike and dip.
2318	Applied Physics Lab	B20 BS 1107	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
2319	Basics of Civil Engineering Workshop	B20 CE 1103	Workshop gives first hand experience in creating useful shapes and objects out of versatile building materials such as wood, metals sheets and block of metal. Hands on skill is a pre-requisite for design creativity.
2320	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2321	Applied Chemistry	B20 BS 1203	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2322	Programming for Problem Solving Using C	B20 CS 1201	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2323	Engineering Mechanics	B20 CE 1201	This is the defining course of Civil Engineering which lays down the framework for studying the macroscopic behaviour of bodies under different types and magnitudes of forces. The other design courses specific to material type building on this course. This course is the essential ground for all Civil Engineering.
2324	Building Materials and Concrete Technology	B20 CE 1202	This course arms the Civil Engineer with knowledge of building materials and their specific applications in various building and infrastructure projects. It helps for employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2325	Applied Chemistry Lab	B20 BS 1208	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
2326	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2327	Programming for Problem Solving Using C Lab	B20 CS 1205	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2328	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2329	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
2330	Applied Chemistry	B20 BS 1103	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2331	Programming for Problem Solving Using C	B20 CS 1101	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2332	Computer Fundamentals and Digital Logic	B20 CS 1102	This course enables students to the digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits that will enhance their employability skills.
2333	Programming for Problem Solving Using C Lab	B20 CS 1103	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2334	Applied Chemistry Lab	B20 BS 1108	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
2335	Computer Engineering Workshop	B20 CS 1104	This course enables students learn the concepts related to computer fundamentals a complete insight into the modern design of digital systems fundamentals from an eminently practical point of view. This understanding plays a key role in student's employment in relevant industries



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2336	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2337	Applied Physics	B20 BS 1202	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2338	Mathematical Foundations of Computer Science	B20 BS 1204	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
2339	Computer Organization	B20 CS 1202	This course adds more knowledge to students as they learn concepts like basic computer registers, instructions, CPU,Memory and I/O organizations, and these will help the students to improve their employability skills
2340	Data Structures	B20 CS 1203	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2341	Applied Physics Lab	B20 BS 1207	We solve complex research, engineering, and analytical problems that present critical challenges to our nationThe learning outcomes of this course contribute to employability prospects of students.
2342	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speakings skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2343	Data Structures Lab	B20 CS 1206	This course enables students to acquire essential skills needed for implementing different data structures like arrays, stacks, queues, linked lists, trees and graphs, these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2344	Professional Ethics and Human Values	B20 MC 1202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
2345	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2346	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2347	Applied Chemistry	B20 BS 1103	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2348	Programming for Problem Solving Using C	B20 CS 1101	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2349	Basic Electronics	B20 EC 1101	This course aims at enabling students to learn various aspects of basic circuit components, principles, KVL/KCL analysis, frequency response of RC circuit and measuring instruments, Principles of semiconductor devices, basic construction, operation & applications of diodes, basics of Integrated Circuits (IC) and fundamental operational characteristics of active devices such as BJT, FET, Number systems and digital circuit elements such as logic gates and flip flops. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2350	Programming for Problem Solving Using C Lab	B20 CS 1103	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2351	Applied Chemistry Lab	B20 BS 1108	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
2352	Electronics Workshop	B20 EC 1102	This course enables students to learn the concepts related to introduction of electronic hardware systems and provides hands-on training with familiarization, identification, testing, assembling, and dismantling. This understanding plays a key role in students' getting employment in relevant industries.
2353	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2354	Applied Physics	B20 BS 1202	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2355	Basic Electrical Engineering	B20 EE 1201	This course makes students understand regarding construction and operation of DC machines, introduction to AC circuits, synchronous machines and Transformers . The learning outcomes of the course contribute to employability.
2356	Engineering Drawing	B20 ME 1203	The course concentrates on the improvemnet of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2357	Network Analysis	B20 EE 1202	This course aims at helping students understand various aspects of theorems and techniques in electric circuit analysis. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2358	Applied Physics Lab	B20 BS 1207	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
2359	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practice in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students.
2360	Basics Electrical Engineering Lab	B20 EE 1204	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer and load test on slip ring induction motor. The learning outcomes of the course contribute to skill development.
2361	Professional Ethics and Human Values	B20 MC 1202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
2362	English	B20 HS 1101	The student develops LSRW skills in English based on classic English literature. It helps for employability.
2363	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
2364	Applied Physics	B20 BS 1102	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2365	Engineering Drawing	B20 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
2366	Introduction to Electrical Systems	B20 EE 1101	This course focuses on employability of students by making them understand basic electrical system.
2367	Basic Electrical Systems Lab	B20 EE 1104	This course enables students to practice operation and characteristics of basic electrical machines. The learning outcomes of the course contribute to skill development.
2368	Applied Physics Lab	B20 BS 1107	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
2369	Workshop Practice	B20 ME 1102	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2370	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2371	Applied Chemistry	B20 BS 1203	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2372	Programming for Problem Solving Using C	B20 CS 1201	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2373	Digital Computer Fundamentals	B20 CS 1204	This course enables students to acquire the knowledge needed for enhancing their skills in the design of digital electronic devices with the knowledge of combinational logic circuits and sequential logic circuits.
2374	Prime Movers and Pumps	B20 ME 1204	This course enables students in learning the characteristics of fluids and working nature of hydraulic machines that help in developing employability of the students.
2375	Applied Chemistry Lab	B20 BS 1208	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
2376	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2377	Programming for Problem Solving Using C Lab	B20 CS 1205	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this inturn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2378	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2379	Mathematics-I	B20 BS 1101	The course M-I enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
2380	Applied Chemistry	B20 BS 1103	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2381	Programming for Problem Solving Using C	B20 CS 1101	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2382	Fundamentals of Computers and Information Technology	B20 IT 1101	This subject is treated as fundamental programming subject for those who want to extend their career in IT sector. The learning outcomes of this course contribute to employability prospects of students.
2383	Programming for Problem Solving Using C Lab	B20 CS 1103	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2384	Applied Chemistry Lab	B20 BS 1108	Engineering chemistry lab mainly focuses on the improvement of experimental skills to enhance the analytical thinking capabilities of students of modern engineering and technology.
2385	Computer Engineering Workshop	B20 CS 1104	This course enables students learn the concepts related to computer fundamentals a complete insight into the modern design of digital systems fundamentals from an eminently practical point of view. This understanding plays a key role in student's employment in relevant industries
2386	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2387	Applied Physics	B20 BS 1202	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2388	Digital Logic Design	B20 IT 1201	Digital logic is the manipulation of binary values through printed circuit board technology that uses circuits and logic gates to construct the implementation of computer operations. The learning outcomes of this course contribute to employability prospects of students.
2389	Object Oriented Programming through C++	B20 IT 1202	This subject is treated as a fundamental programming subject for those who want to extend their career in IT sector. The learning outcomes of this course contribute to employability prospects of students.
2390	Principles of Electrical and Electronics Engineering	B20 EE 1203	This subject deals with the application of electronic equipments in power frequency range. The learning outcomes of this course contribute to employability prospects of students.
2391	Applied Physics Lab	B20 BS 1207	We solve complex research, engineering, and analytical problems that present critical challenges to our nation. The learning outcomes of this course contribute to employability prospects of students.
2392	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2393	Object Oriented Programming through C++ Lab	B20 IT 1203	This subject is treated as a fundamental programming subject for those who want to extend their carrier in IT sector.The learning outcomes of this course contribute to employability prospects of students.
2394	Professional Ethics and Human Values	B20 MC 1202	The course gives a grounding in engineering ethics. It is essential for a professional in discharging his duties towards his employer, customer, government, society and the environment at large.
2395	English	B20 HS 1101	The student develops LSRW skills in English based on classic english literature. It helps for employability.
2396	Mathematics-I	B20 BS 1101	The course M-1 enables students to learn and apply Mathematical concepts like Partial differentiation, Applications of Partial Differential Equations, Fourier Series. The knowledge of these concepts directly contributes to skill development in the Engineering applications like Machine Learning, Signal Processing and Computational Fluid Dynamics.
2397	Applied Physics	B20 BS 1102	The basic concepts of advanced technological tools like Optical fibers, Lasers and Ultrasonics gives the students an opportunity to learn the skills of corresponding technologies. Also, knowledge of Nanomaterials will enhance the Quantum computing methods for students there by improving the employability opportunities.
2398	Engineering Drawing	B20 ME 1101	The course concentrates on the improvement of visualization / imagination skill of an engineer. Learning to make and read engineering drawings helps for skill development.
2399	Basic Electrical and Electronics Engineering	B20 EE 1102	This course focuses on employability of students by making them understand basic laws, DC machines, transformers and diodes.
2400	Basic Electrical and Electronics Engineering Lab	B20 EE 1105	This course enables students to practice functioning of DC machine as generator and motor and finding efficiency and regulation of transformer and half wave and full wave rectifiers . The learning outcomes of the course contribute to skill development.
2401	Applied Physics Lab	B20 BS 1107	We solve complex research, engineering, and analytical problems that present critical challenges to our nationThe learning outcomes of this course contribute to employability prospects of students.
2402	Workshop Practice	B20 ME 1102	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
2403	Mathematics-II	B20 BS 1201	It is a course on Matrix methods and Transforms which are useful in Analysis of structural behaviour under loads and vibrations and modelling discrete systems in the environment. It helps for employability skills.
2404	Applied Chemistry	B20 BS 1203	In this course, the advanced concepts of chemistry lead to cutting edge advancements of applied technology in medical devices, aerospace, computing, cars, fuels and more. The learning outcome of this course contributes to the skill development of students.
2405	Programming for Problem Solving Using C	B20 CS 1201	This course enables students to acquire essential skills needed for implementing programs to solve basic problems to advanced problems, this intun enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2406	Engineering Mechanics	B20 ME 1201	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
2407	Material Science and Metallurgy	B20 ME 1202	This course aims at applying fundamental laws of physics and concepts of engineering mechanics in different engineering applications that help in developing the skills of the students.
2408	Applied Chemistry Lab	B20 BS 1208	The laboratory gives hands-on experience in testing water and other civil engineering materials. The skills developed are useful for engineers involved in water treatment, waste treatment and quality control of building and pavement materials. The students handle both glassware & chemicals and sensitive electronic sensor based equipment. It develops skills in students.
2409	Communication Skills Lab	B20 HS 1202	Building on the theoretical grounding in Listening, Speaking, Reading, Writing skills in English, the lab focuses on practise in listening and speaking skills. Role play of interviews, debates, group discussions help improve skill and confidence of students
2410	Programming for Problem Solving Using C Lab	B20 CS 1205	This course enables students to acquire essential skills needed for implementing programmes to solve basic problems to advanced problems, this in turn enhance their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2411	Theory of Elasticity	M19 ST 1101	The course is advanced to strength of materials and it gives a deep insight into the elastic behaviour in materials and three dimensional analysis which is very much useful in analysing the complex structures.
2412	Structural Dynamics	M19 ST 1102	The course majorly focus on the dynamic analysis of structure and mode shapes which are mainly useful in the analysis of structures designed as Earthquake Resistant.
2413	Matrix Analysis of Structures#PE-I	M19 ST 1103	The course mainly focuses on the matrix methods in analysing the indeterminate structures which are basis for developing the structural analysis softwares.
2414	Analytical & Numerical Methods for Structural Engineering#PE-I	M19 ST 1104	The course equips the structural engineer with advanced mathematical approaches to solving design problems. Beam behaviour under various loads is studied in these approaches.
2415	Design of RCC Foundations#PE-I	M19 ST 1105	The design of foundations for high rise buildings in all types of soil conditions is an important design skill for the structural engineer. This course exposes the student to different kinds of design approaches for important foundation types.
2416	Bridge Engineering #PE-II	M19 ST 1106	This course focuses on the design of different types of bridges and also creates awareness on the bridge bearings and their uses that are used in real life bridges.
2417	Repair and Rehabilitation of Structures#PE-II	M19 ST 1107	This course helps the students in developing the knowledge to access the damage intensity in the structures and to provide suitable repair and rehabilitation techniques



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2418	Advanced Reinforced Concrete Design#PE-II	M19 ST 1108	This is an advanced course to the reinforced concrete design which is one of important course in civil Engineering. The load considerations and designs criterion of typical structures like grid slabs, flat slabs, fire resistant detailing etc were discussed in the course which are useful in designing the real time structures.
2419	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2420	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2421	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2422	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2423	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2424	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2425	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2426	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2427	Finite Element Methods in Structural Engineering	M19 ST 1201	FEM forms the basis for all popular analysis software packages. This course gives the theoretical underpinnings of 1 D and 2 D analysis of stress, strain an bending in structures.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2428	Theory of Plates and Shells	M19 ST 1202	The structural engineer increasingly needs to realise the whims of deconstructivist architects whose forms and elements do not have references in design codes. The theoretical underpinnings of plates and shells arms him with the knowledge to handle such design challenges in his career.
2429	Stability of Structures#PE-III	M19 ST 1203	The structural engineer needs to ascertain the behaviour of his designed buildings under different loading conditions during its service life, including wind, wave and seismic loads. This course equips with knowledge to assess the stability of structures under possible extreme conditions.
2430	Advanced Steel Design#PE-III	M19 ST 1204	This course equips the engineer with design knowledge in steel structures. Steel is the preferred material for constructing large span buildings and industrial structures.
2431	Analysis of Offshore Structures#PE-III	M19 ST 1205	The course offers basic knowledge of floating and fixed marine structures which experience wave loads and a hostile chemical environment to building materials.
2432	Earthquake Resistant Design of Buildings#PE-IV	M19 ST 1206	This course develops the knowledge on engineering seismology and seismic code provisions which helps in designing the earthquake resistant structures
2433	Structural Optimization Techniques#PE-IV	M19 ST 1207	This course discusses about the usage of various optimization techniques like linear and non linear programming, quadratic programming in solving various constructional and design problems.
2434	Earth Retaining Structures#PE-IV	M19 ST 1208	The course is offers specialised knowledge to Structural Engineer tasked with stabilising soils and hill sides in construction and road projects in challenging topographies. The Border Roads Organisation needs such specialised skills for their work.
2435	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2436	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2437	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2438	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2439	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2440	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2441	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2442	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2443	Mathematical Foundations of Computer Science	M19 CST 1101	This course enable the students to understand embedded-system programming and apply that knowledge to design and develop embedded solutions. This understanding plays a key role in student's getting employment in relevant industries
2444	Advanced Data Structures	M19 CST 1102	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the excution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2445	Artificial Intelligence#PE-I	M19CST1103	This course deals with concetpts like automation of human intelligence which help them gain better employability oppertunities and build better carrier in the area of AI and Neural Networks.
2446	Cloud Computing#PE-I	M19CST1104	This course helps the students learns the concepts related to the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet offer faster innovation, flexible resources, and economies of scale. This understanding plays a key role in student's getting employment in relevant industries
2447	Digital Image Processing#PE-I .	M19CST1105	This course helps the students learns the concepts related to digital image processing techniques including representation, image transforms, image enhancement, image smoothing and sharpening, and image restoration. This understanding plays a key role in student's getting employment in relevant industries
2448	Advanced Operating System#PE-I	M19CST1106	This course helps students learn the concepts related to cpu scheduling ,memory management etc.This understanding plays a key role in students getting employment in relevant industries
2449	Optimization Techniques#PE-I	M19CST1107	This course helps the students to develop interest in applying optimization techniques .This knowledge improves their skills and this understanding plays a key role in student's employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2450	Bigdata Analytics#PE-I	M19CST1108	This course deals with concepts like hadoop architecture, pig and hive which will help them gain better employability opportunities and build a better career
2451	Applied Cryptography#PE-II	M19CST1109	This course enables students learn the concepts related to the areas of cryptography and cryptanalysis and develop a basic understanding of the algorithms used to protect users online. This understanding plays a key role in student's employment in relevant industries.
2452	Advanced Computer Networks#PE-II	M19CST1110	This course helps students understand the concepts related to different layers OSI, TCP and protocols. This understanding plays a key role in student's getting employment in relevant industries.
2453	Embedded Computing#PE-II	M19CST1111	This course helps students to develop different models using TCP and UDP socket programming.
2454	Parallel Computer Architecture#PE-II	M19CST1112	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2455	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2456	Advanced Data Structures Lab	M19 CST 1113	This course makes students develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2457	Computing Lab	M19 CST 1114	This course makes students learn the concepts related to python programming which will help them grab employability opportunities in the industry.
2458	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2459	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2460	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2461	Value Education#AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2462	Constitution of India#AC-1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2463	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2464	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2465	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2466	Advanced Algorithms	M19 CST 1201	This course enables students to acquire essential skills needed for implementing different advanced data structures like Trees, Disjoint sets, External sortings, graphs these will enhancing their skills in development of software and this ability of design plays a key role in students getting employment in relevant industries.
2467	Machine Learning	M19 CST 1202	this course makes students to conceptualize the concepts related to machine learning to transforming the knowledge of human to train a Machine and build career path as ML Engineer. This transforming knowledge from human to machine will play a key role in students getting employment in relevant industries.
2468	Soft Computing #PE-III	M19CST1203	This course enables students to gain knowledge about neural network theory and fuzzy logic theory. This knowledge will contribute to student's getting employability in relevant industries.
2469	Advanced Network Principles and Protocols#PE-III	M19CST1204	This course helps students understand fundamentals of various components like networking protocols which not only enhances their technical competence but also makes them become employable in relevant companies.
2470	Internet of Things #PE-III	M19CST1205	This course makes students learn the concepts related to Internet of Things in real time, and for automatizing of machines. This understanding plays a key role in student's getting employment in relevant industries, enhance their entrepreneur skills.
2471	Open Source Programming #PE-III	M19CST1206	This course makes students to develop applications on open source software. This knowledge will contribute to student's getting employability in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2472	Pattern Recognition #PE-III	M19CST1207	This course enables students learn the concepts related to data analysis method that uses machine learning algorithms to automatically recognize patterns and regularities in data. This understanding plays a key role in student's getting employment in relevant industries
2473	Natural Language Processing#PE-IV	M19CST1208	This course deals with concepts related to automation translation and understanding of human intelligence and knowledge which help them gain better employability opportunities and build better carrier in the area of AI, Neural Networks and NLP.
2474	Full Stack Technologies#PE-IV	M19CST1209	This course enables students apply the concepts related to HTML, java script, XML, AJAX and PHP. This understanding and development of applications will enhance students skills to design software, and this ability of software design plays a key role in students getting employment in relevant industries.
2475	Parallel Algorithms#PE-IV	M19CST1210	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2476	Object Oriented Software Engineering#PE-IV	M19CST1211	This course includes fundamentals of software development along with its analysis and design. Inclusion of this course in this program has lot of influence in acquiring employability and entrepreneurship skills as almost every software includes database and software analysis & design . It is also useful to acquire Software Engineer jobs.
2477	Distributed Database#PE-IV	M19CST1212	This course deals with concepts automation translation and understanding of human intelligence and knowledge which help them gain better employability opportunities and build better carrier in the area of AI, Neural Networks and NLP.
2478	Advance Algorithm Lab	M19 CST 1213	This course makes students to develop algorithms for many of the complex problems to solve them in parallel, which makes the execution of program more efficiently and usage of resources in an efficient manner. This ability of efficient usage of computer resources will play a key role in students getting employment in relevant industries.
2479	Machine Learning Lab	M19 CST 1214	This course makes students learn and apply basic supervised and unsupervised machine learning algorithms, ensemble algorithms, deep neural network models CNN, RNN, LSTM, AutoEncoders, ResNet, AlexNet in Python environment for solving societal problems. This understanding plays a key role in students' getting employment in Machine Learning environment.
2480	Mini Project with Seminar	M19 CST 1215	This course includes all the steps of project development starting from inception phase and ending with deployment of a research oriented projects. Final Project in the M.Tech is a test bed to refine their skills and it is launch pad to learn the required job skills and research orientation for their future research work



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2481	English for Research Paper Writing#AC-2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2482	Disaster Management#AC-2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2483	Sanskrit for Technical Knowledge#AC-2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2484	Value Education#AC-2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2485	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2486	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2487	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2488	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2489	Digital Data Communications	M19 CS 1101	This course makes students learn the concepts related to Different modulation techniques to improve the bandwidth and their properties. This understanding plays a key role in students' getting employment in relevant industries.
2490	Advanced Digital Signal Processing	M19 CS 1102	This course helps students learn the concepts related to design and implementation techniques of digital filter (both FIR & IIR) . This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2491	Radar Signal Processing#PE-I	M19 CS1103	This course helps students learn the concepts related to Derivation of Radar range and Design of matched filter for different noises. This understanding plays a key role in students' getting employment in relevant industries.
2492	RF Circuit Design#PE-I	M19 CS 1104	This course enables students to learn the concepts related to the design and analysis of single and multiport networks and RF Filters . This understanding plays a key role in students' getting employment in relevant industries.
2493	Advanced Computer Networks#PE-I	M19 CS 1105	This course enables students to learn the concepts related to the principles of computer networks and Congestion and Quality of Service. This understanding plays a key role in students' getting employment in relevant industries.
2494	Wireless LANs and PANs #PE-II	M19 CS 1106	This course makes students learn the concepts related to different generations of mobile networks and wireless networks. This understanding plays a key role in students' getting employment in relevant industries.
2495	Mobile Computing Technologies#PE-II	M19 CS1107	This course enables students to learn the concepts related to WAP and Wireless LAN. This understanding plays a key role in students' getting employment in relevant industries.
2496	Network Security & Cryptography#PE-II	M19 CS 1108	This course makes students learn the concepts related to cryptography, authentication and emerging security standards. This understanding plays a key role in students' getting employment in relevant industries.
2497	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2498	Data Communications Lab	M19 CS 1109	The experiments carried out in this lab consolidate student's understanding of the steps involved in the analysis and synthesis of different analog & digital link set ups using a fiber in detail. The knowledge gained in this lab is essential to students in getting employment in communication based industries.
2499	Advanced Digital Signal Processing Lab	M19 CS 1110	This course aims at helping students learn various aspects of different filters in software and apply transforms in time and frequency. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2500	English for Research Paper Writing#AC-1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2501	Disaster Management#AC-1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2502	Sanskrit for Technical Knowledge#AC-1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2503	Value Education #AC-1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2504	Constitution of India#AC-1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2505	Pedagogy Studies#AC-1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2506	Stress Management by Yoga#AC-1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2507	Personality Development through Life Enlightenment Skills.#AC-1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2508	Wireless Communications and Networks	M19 CS 1201	This course enables students to learn the concepts related to functioning of wireless communication system and evolution of different wireless communication systems and standards. This understanding plays a key role in students' getting employment in relevant industries.
2509	Image and Video Processing	M19 CS 1202	This course helps students learn the concepts related to digital image processing and video processing. This understanding plays a key role in students' getting employment in relevant industries.
2510	Soft Computing Techniques#PE-III	M19 CS 1203	This course enables students to learn the concepts related to soft computing basics and c implementation details on Artificial Neural Networks. This understanding plays a key role in students' getting employment in relevant industries.
2511	Internet Protocols#PE-III	M19 CS 1204	This course makes students learn the concepts related to theoretical and practical knowledge about the TCP/IP networking, which are fundamental to understand the architecture of the Internet. This understanding plays a key role in students' getting employment in relevant industries.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2512	Cyber Security#PE-III	M19 CS 1205	This course enables the students learn the concepts related to securing both clean and corrupted systems, protect personal data, and secure computer networks. This understanding plays a key role in students' getting employment in relevant industries.
2513	Optical Networks #PE-IV	M19 CS 1206	This course makes students learn the concepts related to Various components of optical networks and Multiplexing techniques and fibre characteristics. This understanding plays a key role in students' getting employment in relevant industries.
2514	Digital Signal Processors and Architectures#PE-IV	M19 CS 1207	This course enables students to understand the concepts related to -basic DFT, FFT and rate conversion algorithms dynamic range and sources of errors in DSP systems.This understanding plays a key role in students' getting employment in relevant industries.
2515	Radio Navigational Aids#PE-IV	M19 CS 1208	This course helps students learn the concepts related to -Navigational Systems and Inertial navigation , Global Positioning System and its applications in navigation . This understanding plays a key role in students' getting employment in relevant industries.
2516	Advanced Communications Lab	M19 CS 1209	This course makes students learn the concepts related to measurement of bit error rate, Hamming distance and coding techniques and calculation efficiency of spread spectrum techniques. This understanding plays a key role in students' getting employment in relevant industries.
2517	Advanced Digital Image and Video Processing Laboratory	M19 CS 1210	This course makes students apply the concepts related to processing algorithms to enhance images and videos, and compression and segmentation techniques of Images and Videos. This understanding plays a key role in students' getting employment in relevant industries.
2518	Mini Project with Seminar	M19 CS 1211	This course aims at enabling students to explicate various aspects of undertaking and presenting a technological project . This experience gained from the course contributes to the development of skills needed for more advanced applications.
2519	English for Research Paper Writing#AC-2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2520	Disaster Management#AC-2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2521	Sanskrit for Technical Knowledge#AC-2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2522	Value Education #AC-2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2523	Constitution of India#AC-2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2524	Pedagogy Studies#AC-2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2525	Stress Management by Yoga#AC-2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2526	Personality Development through Life Enlightenment Skills.#AC-2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2527	Advanced Power system operation and control	M19 PS 1101	This course focuses on employability of students by making them understanding Economical operation using thermal plants and combined hydro thermal plants
2528	Power system dynamics and stability	M19 PS 1102	This course makes students understand the concept of dynamics, stability, excitation and SMIB of power system. The learning outcomes of the course contribute to employability.
2529	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2530	Power System Simulation Laboratory-I	M19 PS 1109	This course enables students to practice usage of MATLAB to electrical problems like load flow solution, fault analysis .The learning outcomes of the course contribute to skill development.
2531	Power system Laboratory	M19 PS 1110	This course enables students to practice Determination of Sequence Impedence of an Alternator, measurement of ABCD parameters of transmission line .The learning outcomes of the course contribute to skill development.
2532	Electric Power Distribution System #PE-I	M19 PS 1103	This course focuses on employability of students by making them understand design of substation and distribution system
2533	HVDC Transmission #PE-I	M19 PS 1104	This course focuses on employability of students by making them understand HVDC transmission techniques.
2534	EHVAC Transmission #PE-I	M19 PS 1105	This course makes students understand the calculation of field effects on EHV and UHVAC The learning outcomes of the course contribute to employability
2535	Artificial Intelligence Techniques #PE-II	M19 PS 1106	This course makes students understand the course provides GA in optimization,Fuzzy and ANN architecture The learning outcomes of the course contribute to employability.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2536	Optimization Techniques #PE-II	M19 PS 1107	This course makes students understand the different optimization techniques like transportation problem, game theory for solving problems. The learning outcomes of the course contribute to employability.
2537	Advanced Digital Signal Processing #PE-II	M19 PS 1108	This course focuses on employability of students by making them understand the design of digital filters helps for employability
2538	English for Research Paper Writing #AC-1 & 2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2539	Disaster Management #AC-1 & 2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2540	Sanskrit for Technical Knowledge #AC-1 & 2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2541	Value Education #AC-1 & 2	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2542	Constitution of India #AC-1 & 2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2543	Pedagogy Studies #AC-1 & 2	M19 AC 0006	This course aims* at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2544	Stress Management by Yoga #AC-1 & 2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2545	Personality Development through Life Enlightenment Skills. #AC-1 & 2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2546	Real Time Control of Power Systems	M19 PS 1201	This course makes students understand the the significance of voltage and stability analysis, importance of security . The learning outcomes of the course contribute to employability
2547	Advanced Power Electronic Converters	M19 PS 1202	This course focuses on employability of students by making them understand the control principle of AC -AC conversion with suitable devices



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2548	Power System Simulation Laboratory-II	M19 PS 1209	This course enables students to practice usage of MATLAB to electrical problems and application of GA in optimization ,AI techniques .The learning outcomes of the course contribute to skill development.
2549	Power Electronics for Renewable Integration Laboratory	M19 PS 1210	This course enables students to practice operation of convertes and inverterd for single and three phase load. The learning outcomes of the course contribute to skill development.
2550	Mini Project with Seminar	M19 PS 1211	This course aims at enabling students to explicate various aspects of undertaking and presenting a technological project . This experience gained from the course contributes to the development of skills needed for more advanced applications.
2551	Power Quality Issues and Remedies #PE-III	M19 PS 1203	This course makes students understand ooltage sag, swell, harmonics in power system . The learning outcomes of the course contribute to employability.
2552	Digital Protection of Power Systems #PE-III	M19 PS 1204	This course makes students understand study of pilot relaying and carrier current protection . The learning outcomes of the course contribute to employability.
2553	Power System Transients #PE-III	M19 PS 1205	This course makes students understandthe effect of over voltages, lighting in power systems The learning outcomes of the course contribute to employability.
2554	Smart Grids Technologies #PE-IV	M19 PS 1206	This course makes students understand about knowledge of microgrids and distributed energy systems. The learning outcomes of the course contribute to employability.
2555	Renewable Energy Systems #PE-IV	M19 PS 1207	This course focuses on employability of students by making them understand wind, solar energy systems
2556	Advanced Control Theory #PE-IV	M19 PS 1208	This course focuses on employability of students by making them understand design of control system - lead lag, Tuning methods
2557	Discrete Mathematical Structures	M19 IT 1101	This course helps to develop solutions to practical problems.The learning outcomes of this course contribute to employability prospects of students.
2558	Advanced Data Structures	M19 IT 1102	This course is a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to employability prospects of students.
2559	Research Methodology and IPR	M19 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurships skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2560	Advanced Data Structures Lab	M19 IT 1113	This course focuses on a specialized format for organizing, processing, retrieving and storing data.The learning outcomes of this course contribute to skill development prospects of students.
2561	Computing Lab	M19 IT 1114	This course focuses to provide required computing and simulation facilities to the undergraduate students in order to meet their requirements.The learning outcomes of this course contribute to skill development prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2562	Artificial Intelligence #PE-I	M19IT1103	This course helps professionals to master the concepts of data sources, knowledge acquisition and types of machine learning algorithms. The learning outcomes of this course contribute to employability prospects of students.
2563	Service Oriented Architectures And Web Security #PE-I	M19IT1104	This course focuses on a security program must be multidimensional. Regardless of security policy goals, one cannot completely ignore any of the three major requirements. The learning outcomes of this course contribute to employability prospects of students.
2564	Internet of Things #PE-I	M19IT1105	This course describes the network of physical object that are embedded with sensors, software, and other technologies. The learning outcomes of this course contribute to employability prospects of students.
2565	Optimization Techniques #PE-I	M19IT1106	This course is used in many areas of study to find solutions that maximize or minimize some study parameters, such as minimize costs in the production of a good or service, maximize profits, minimize raw material in the development of a good, or maximize production. The learning outcomes of this course contribute to employability prospects of students.
2566	Parallel Computer Architecture #PE-I	M19IT1107	This course is the method of organizing all the resources to maximize the performance and the programmability within the limits given by technology and the cost at any instance of time. The learning outcomes of this course contribute to employability prospects of students.
2567	Bigdata Analytics #PE-II	M19IT1108	This courses provides information about complex process of examining big data to uncover information , such as hidden patterns, correlations, market trends and customer preferences , that can help organizations make informed business decisions. The learning outcomes of this course contribute to employability prospects of students.
2568	Principles Of Cryptography #PE-II	M19IT1109	This course is a technique of securing information and communications through use of codes .The learning outcomes of this course contribute to employability prospects of students.
2569	Cluster And Grid Computing #PE-II	M19IT1110	This course focuses on a heterogeneous network whose devices have diverse hardware segments and diverse OS connected in a grid. The learning outcomes of this course contribute to employability prospects of students.
2570	Imaging and Multimedia Systems #PE-II	M19IT1111	This course converts the printed text, artwork, and photographs into digital images using a digital scanner or another imaging device. The learning outcomes of this course contribute to employability prospects of students.
2571	Advanced Graph Theory #PE-II	M19IT1112	This course is a concerned with networks of points connected by lines. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2572	English for Research Paper Writing # AC1	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2573	Disaster Management# AC1	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2574	Sanskrit for Technical Knowledge# AC1	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2575	Value Education# AC1	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization.The learning outcomes of this course contribute to employability prospects of students.
2576	Constitution of India# AC1	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2577	Pedagogy Studies# AC1	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2578	Stress Management by Yoga# AC1	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2579	Personality Development through Life Enlightenment Skills.# AC1	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2580	Advanced Algorithms	M19IT1201	This course helps to develop advanced algorithms The learning outcomes of this course contribute to employability prospects of students.
2581	Full Stack Technologies	M19IT1202	This course refers to the way computers/devices communicate. with each other using mark up languages.The learning outcomes of this course contribute to employability prospects of students.
2582	Machine Learning #PE-III	M19IT1203	This course allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so.The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2583	DevOps #PE-III	M19IT1204	This course refers to the way computers/devices communicate with each other using mark up languages. The learning outcomes of this course contribute to employability prospects of students.
2584	Advanced Network Principles and Protocols #PE-III	M19IT1205	This lab exposes students to various advanced topics including Wi-Fi, WiMAX, Satellite Networks, Mobile Adhoc Networks (MANETs), Wireless Sensor Networks (WSNs). The learning outcomes of this course contribute to employability prospects of students.
2585	Distributed Computing #PE-III	M19IT1206	This course consists of multiple software components that are on multiple computers, but run as a single system. The learning outcomes of this course contribute to employability prospects of students.
2586	Social Network Analytics#PE-III	M19IT1207	This course refers to the process of investigating social structures through the use of networks and graph theory. The learning outcomes of this course contribute to employability prospects of students.
2587	Digital Image Processing #PE-IV	M19IT1208	This course enables technology for the generation, transformation, extraction and interpretation of information via electronic signals. The learning outcomes of this course contribute to employability prospects of students.
2588	Block Chain Technologies#PE-IV	M19IT1209	This course helps to store transactional records, also known as the block, of the public in several databases, known as the "chain," in a network connected through peer-to-peer nodes. The learning outcomes of this course contribute to employability prospects of students.
2589	Data Science #PE-IV	M19IT1210	This course refers to the domain of study that deals with vast volumes of data using modern tools and techniques to find unseen patterns, derive meaningful information, and make business decisions. The learning outcomes of this course contribute to employability prospects of students.
2590	Soft Computing#PE-IV	M19IT1211	This course focuses on collection of methodologies, which aim to exploit tolerance for imprecision, uncertainty and partial truth to achieve tractability, robustness and low solution cost. The learning outcomes of this course contribute to employability prospects of students.
2591	Natural Language Processing#PE-IV	M19IT1212	This course provides information about computational techniques to the analysis and synthesis of natural language and speech. The learning outcomes of this course contribute to employability prospects of students.
2592	Advance Algorithms Lab	M19IT1213	This course helps to develop and enhance advanced algorithms in lab. The learning outcomes of this course contribute to skill development prospects of students.
2593	Full Stack Technologies Lab	M19IT1214	This course refers to the way computers/devices communicate. with each other using mark up languages. The learning outcomes of this course contribute to skill development prospects of students.
2594	Mini Project with Seminar	M19IT1215	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2595	English for Research Paper Writing # AC2	M19 AC 0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2596	Disaster Management# AC2	M19 AC 0002	This course aims at enabling students to learn various aspects of disaster risk reduction and humanitarian response. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2597	Sanskrit for Technical Knowledge# AC2	M19 AC 0003	This course aims at enabling students to understand various aspects of how ancient technological knowledge was preserved in Sanskrit. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2598	Value Education	M19 AC 0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.
2599	Constitution of India# AC2	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2600	Pedagogy Studies# AC2	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2601	Stress Management by Yoga# AC2	M19 AC 0007	This course aims at helping students understand various aspects of how overall health of body and mind can be accomplished by stress management. This exposure gained from the course contributes to the development of skills and awareness needed for more advancement life.
2602	Personality Development through Life Enlightenment Skills. AC2	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.
2603	Geometric Modeling	M19 CAD 1101	The course concentrates on the Integration of computers and manufacturing tools to the realworld image procesing problems in the industry so as to achieve the highest productivity, which paves a way for employability for students.
2604	Computer Aided Manufacturing	M19 CAD 1102	The course deals with the integration of computer aided manufacturing tools to the realworld manufacturing methods so as to achieve highest productivity, which relates to employability skills finally.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2605	Advanced CAD Lab	M19 CAD 1109	The course focuses on learning the use of CAD packages to make engineering drawings, which makes a way for students to develop skills.
2606	Advanced Manufacturing Lab	M19 CAD 1110	The course concentrates on design and simulation of various manufacturing methods to solve real world industrial problems, which develops skills for the students.
2607	Research Methodology and IPR	M17 RD 1101	It fosters the competencies of students and helps them improve their entrepreneurship skills by the knowledge of research methodology equips the researcher with the tools and some common types of intellectual property rights
2608	Writing Skills for Scientific Communication	M17 AC 1109	Continuous evaluation with focus on Employability.
2609	Computational Methods in Engineering(Program Elective-I)	M19 CAD 1103	The course aims at the application of complex mathematical solutions to solve real world problems in industry in order to achieve the highest productivity, which enhances entrepreneurship.
2610	Material Technology(Program Elective-I)	M19 CAD 1104	The course concentrates on understanding various material characterisation techniques to enhance material material properties of various engineering systems, which enhances employability skills.
2611	Mechanical Vibrations(Program Elective-I)	M19 CAD 1105	The course focuses on design and development of engineering systems which is often reserved for systems that can oscillate freely without applied forces, which relates to employability skills.
2612	Mechatronics(Program Elective-II)	M19 CAD 1106	The course deals with the application of electronics and mechanics to solve various engineering problems to become industry ready. It thus applies to employability.
2613	Industrial Robotics(Program Elective-II)	M19 CAD 1107	The course deals with the construction and simulation of robots and their application in different areas, which, in turn, help for employability.
2614	Modelling and Simulation of Manufacturing Systems(Program Elective-II)	M19 CAD 1108	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become industry ready, which develops skill for the students.
2615	Theory of Elasticity and Plasticity Advanced	M19CAD 1201	The course deals with the design of mathematical models to solve complex 2D&3D stresses and strains in real world engineering applications so as to develop highest reliable engineering systems, which makes a way for employability skills.
2616	Manufacturing Processes	M19CAD 1202	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in industrial & engineering systems. It, thus, helps for employability.
2617	Computer Aided Machining Lab	M19CAD 1209	The course concerns learning the use of advanced CAM packages to simulations manufacturing processes to become industry ready, which develops skill for the students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2618	Robotics Lab	M19CAD 1210	The course aims at Construction and simulation of robots and their application in different areas, which in turn improves employability skills in students.
2619	Mini Project With Seminar	M19 CAD 1211	The course aims at the application of engineering knowledge to get mechanical engineering output which develops skill in the student community.
2620	Advanced Finite Element Methods(Program Elective-III)	M19CAD 1203	The course deals with the design of computerized method for predicting how a product reacts to real-world forces, vibration, heat, fluid flow, and other physical effects that were encountered day to day in industrial & engineering systems. It, thus, helps for employability.
2621	Fracture Mechanics(Program Elective-III)	M19CAD 1204	The course concentrates on applying analytical solid mechanics to calculate the driving force on a crack and those of experimental solid mechanics to characterize the material's resistance to fracture, which paves a way for employability.
2622	Product Design and Development(Program Elective-III)	M19CAD 1205	The course relates to blending user needs with business goals to help brands make consistently successful products, which builds entrepreneurship.
2623	Materials Characterization Techniques(Program Elective-IV)	M19CAD 1206	The course focuses on understanding various material characterisation techniques that enhance material material properties of various engineering systems. This enhances employability.
2624	Optimization & Reliability(Program Elective-IV)	M19CAD 1207	The course aims at the application of complex mathematical solutions to solve real world problems in industry in order to achieve the highest productivity, which enhances employability.
2625	Additive Manufacturing(Program Elective-IV)	M19CAD 1208	The course deals with the application of CAD softwares to design a product using different additive manufacturing methods for employability and entrepreneurship skills
2626	English for Research Paper Writing # AC 1	M19AC0001	Publication of research output in peer reviewed journals is mandatory for researchers to advance their research and career. Research literature demand exacting compliance to standards of clarity, brevity, punctuation and styles. This course gives complete guidance on language skills and writing styles that helps reduce the rewriting attempts before one gets his paper published in journals.
2627	Disaster Management# AC1	M19AC0002	This course refers to the conservation of lives and property during natural or human-made disasters. The learning outcomes of this course contribute to employability prospects of students.
2628	Sanskrit for Technical Knowledge# AC1	M19AC0003	This course provides a basic knowledge of classical Sanskrit is essential in order to have access to Indian civilization. The learning outcomes of this course contribute to employability prospects of students.
2629	Value Education# AC1	M19AC0004	This course convey personal conviction, ethics describe the accepted principles and standards of conduct about moral duties and virtues as applied to an organization. The learning outcomes of this course contribute to employability prospects of students.



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S.No.	Name of the Course	Course Code	Activities/Content with direct bearing on Employability/ Entrepreneurship/ Skill development
2630	Constitution of India(Audit Course)	M19 AC 0005	This course aims at enabling students to understand various aspects of premises informing the twin themes of liberty and freedom from a civil rights perspective. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2631	Pedagogy Studies(Audit Course)	M19 AC 0006	This course aims at enabling students to learn various aspects of rationale, Policy background, Conceptual framework and terminology Theories of learning, Curriculum, Teacher education. This exposure gained from the course contributes to the development of skills needed for more advanced applications.
2632	Stress Management by Yoga# AC2	M19AC0007	This course helps to gain knowledge about yoga which helps to reduce stress and anxiety. The learning outcomes of this course contribute to employability prospects of students.
2633	Personality development through life enlightenment skills	M19 AC 0008	This course aims at enabling students to understand various aspects of personality development. This exposure gained from the course contributes to the development of skills needed for more advanced learning.



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